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=> d his

     (FILE 'HOME' ENTERED AT 14:20:28 ON 10 OCT 2007)

     FILE 'CAPLUS, MEDLINE' ENTERED AT 14:20:38 ON 10 OCT 2007
L1            84 S PREBIOTIC? (P) AQUEOUS SOLUTION?
L2             0 S L1 AND CARRIER?
L3             0 S L1 AND PHARMACEUT?
L4             0 S L1 AND DRINK?
L5             0 S L1 AND BEVERAGE?
L6            15 S PREBIOTICS (P) BEVERAGE?
L7             5 S PREBIOTICS (P) CARRIER?
L8            62 S PREBIOTICS (P) WATER?
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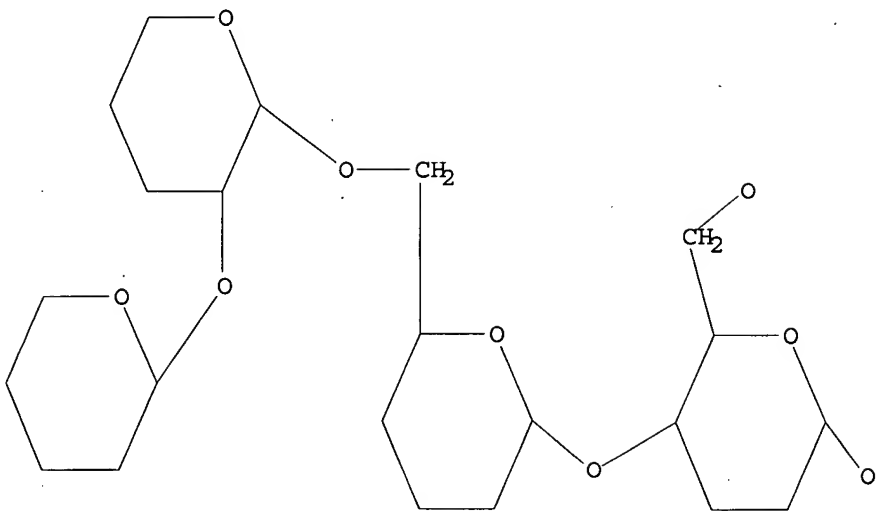
=> d L1
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

> d L8 1-9 ibib abs

L8 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:728975 CAPLUS
DOCUMENT NUMBER: 147:141553
TITLE: Manufacture of CTLA4 fusion proteins with immunoglobulins with CHO cells carrying multiple integrated copies of the expression construct
INVENTOR(S): Leister, Kirk J.; Schaefer, Eugene J.; Bates, Ronald; Bramhall, Elizabeth A.; Didio, David M.; Donaldson, Robert; Flesher, Alan R.; Grace, Michael; Haggerty, Helen G.; Hosselet, Stephen; Kirkley, David H.; Tabor, John M.; Tay, Lee K.; Thammana, Pallaiah; Velayudhan, Ajoy; Smolin, David E.; Russell, Reb J.; Vanden Boom, Thomas; Schicho, Richard N.
PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA
SOURCE: PCT Int. Appl., 790pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007076032	A2	20070705	WO 2006-US49074	20061219

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.:
US 2005-752150P P 20051220
US 2005-752267P P 20051220
US 2006-849543P P 20061005

AB Methods of manufacturing fusion proteins of human CTLA4 antigen with Ig heavy chains are described. The fusion proteins are useful as immunosuppressants in the treatment of a number of inflammatory and immune disorders. Expression vectors for the manufacture of the protein in CHO cells are described. The protein is characterized in terms of glycosidation and methods of purifying it to a form suitable for therapeutic are described.

L8 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:619364 CAPLUS
DOCUMENT NUMBER: 147:53140
TITLE: Preparation of glucagon-like peptide 1-related sugar chain adducts of peptides and pharmaceutical comprising the same as active ingredient for treating diabetes
INVENTOR(S): Ito, Takaomi; Takimoto, Akio; Nagatome, Hirofumi; Fumoto, Masataka; Ueda, Taichi; Nishimura, Shin-Ichiro
PATENT ASSIGNEE(S): Shionogi & Co., Ltd., Japan; National University Corporation Hokkaido University
SOURCE: PCT Int. Appl., 98pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007063907	A1	20070607	WO 2006-JP323834	20061129

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: JP 2005-346905 A 20051130

GI

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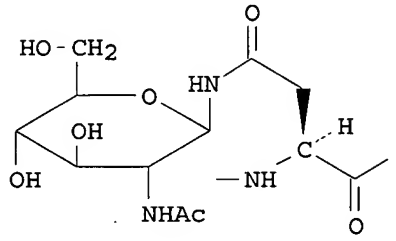

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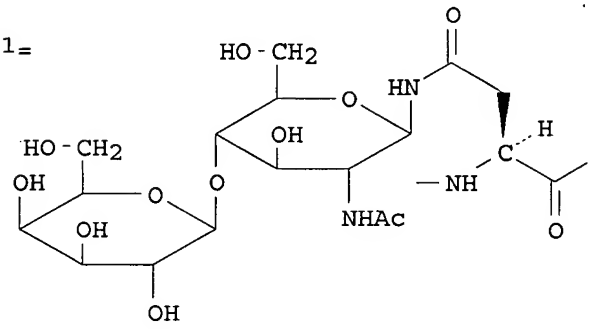

AB Glucagon-like peptide 1 (GLP-1) derivs., i.e. sugar chain adducts of HAEGTFTSDVSSYLEGQAAKEFIAWLVKGR-NH2 [GLP-1 (7-36)amide] and HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS-NH2 (exendin-4) are prepared by modifying peptide side chains with sugar chains. These glycopeptides are non-susceptible to enzymic degradation by dipeptidyl peptidase IV (DPP-IV) or neutral endopeptidase and possess long-lasting insulin secretion-promoting activity. Thus, a solution containing 2 mM HAEGTFTSDVSSYLEGQAAKEFIAWLVXGR-NH2 (I; X = Q), 5 mM UDP-galactose, 0.2 U/mL β1,4-galactosyltransferase, and 10 mM MnCl2 in 12.5 mM HEPES buffer (pH 7.5) was allowed to react at 25° for 2 h to give I (X = Q1). I (X = Q1) showed EC50 of 0.11 nM for increasing the production of cAMP in CHO cells expressing GLP-1 receptor and showed IC50 of 0.76 nM for inhibiting the binding of [125I]GLP-1(7-36) to GLP-1 receptor. It showed resistance to hydrolysis by human recombinant DPP-IV with dynamic parameter kcat/KM of 2.5 (kcat = reaction rate constant [s-1], KM = Michaelis-Menten constant [M]).

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:1328930 CAPLUS
DOCUMENT NUMBER: 144:64386
TITLE: Glycosylphosphatidylinositol (GPI) glycan signaling via integrins functioning as glycan-specific receptors
INVENTOR(S): Schofield, Louis
PATENT ASSIGNEE(S): The Walter and Eliza Hall Institute of Medical Research, Australia
SOURCE: PCT Int. Appl., 81 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005120519	A1	20051222	WO 2005-AU842	20050610
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2005251388	A1	20051222	AU 2005-251388	20050610
CA 2569891	A1	20051222	CA 2005-2569891	20050610
EP 1778253	A1	20070502	EP 2005-749464	20050610
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR				

PRIORITY APPLN. INFO.: AU 2004-903183 A 20040610
WO 2005-AU842 W 20050610

AB The invention discloses a method for modulating integrin-mediated cellular activity and agents useful for same. More particularly, the invention discloses a method for modulating αβ-integrin-mediated cellular activity by modulating GPI-related signaling. The method of the invention is useful e.g. in the treatment and/or prophylaxis of conditions characterized by aberrant, unwanted, or otherwise inappropriate integrin-mediated cellular activity. The invention further discloses methods for identifying and/or designing agents capable of modulating the integrin-dependent signaling mechanism.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1027067 CAPLUS
DOCUMENT NUMBER: 143:321814
TITLE: High throughput glycan microarrays for diagnosis and compositions of glycans for immunization and therapy
INVENTOR(S): Blixt, Ola; Head, Steve
PATENT ASSIGNEE(S): The Scripps Research Institute, USA
SOURCE: PCT Int. Appl., 228 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2005088310 A2 20050922 WO 2005-US7370 20050307
WO 2005088310 A3 20051124
WO 2005088310 A9 20061019
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
EP 1723422 A2 20061122 EP 2005-730370 20050307
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
JP 2007527539 T 20070927 JP 2007-502085 20050307
US 2007059769 A1 20070315 US 2006-516014 20060905
PRIORITY APPLN. INFO.: US 2004-550667P P 20040305
US 2004-558598P P 20040331
US 2004-629833P P 20041119
WO 2005-US7370 W 20050307

AB The invention provides arrays of glycans for detecting entities that bind to glycans. In some embodiments, the arrays can be used to detect disease, blood types, antibodies, bacterial or viral infection, cancer, and the like. The invention also provides methods and kits for such detection. In another embodiment, the invention provides methods of preventing or treating disease in a mammal by administering to the mammal a composition that includes at least glycan.

L8 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:179984 CAPLUS
DOCUMENT NUMBER: 140:213588
TITLE: IgG possessing an oligosaccharide, and its use in diagnosing diabetic nephropathy and membranous nephropathy
INVENTOR(S): Kojima, Naoya; Nakata, Munehiro
PATENT ASSIGNEE(S): Tokai University, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004067732	A	20040304	JP 2002-225198	20020801

PRIORITY APPLN. INFO.: JP 2002-225198 20020801

AB A method is provided for diagnosing diabetic nephropathy and membranous nephropathy by detecting a novel single chain-type oligosaccharide specifically recognized in the blood serum IgG from a patient of diabetic nephropathy and membranous nephropathy or the IgG possessing such an oligosaccharide.

L8 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:17423 CAPLUS
DOCUMENT NUMBER: 140:72925
TITLE: Characterization and drug screening use of phosphoinositolglycan-binding protein from plasma membrane of adipocytes
INVENTOR(S): Mueller, Guenter; Frick, Wendelin; Schneider, Rudolf; Petry, Stefan; Urmann, Matthias

PATENT ASSIGNEE(S): Aventis Pharma Deutschland G.m.b.H., Germany
SOURCE: Eur. Pat. Appl., 41 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1378517	A1	20040107	EP 2002-15047	20020705
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CA 2490572	A1	20040115	CA 2003-2490572	20030626
WO 2004005337	A1	20040115	WO 2003-EP6725	20030626
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
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AU 2003246590	A1	20040123	AU 2003-246590	20030626
EP 1521773	A1	20050413	EP 2003-762515	20030626
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BR 2003012417	A	20050426	BR 2003-12417	20030626
CN 1665836	A	20050907	CN 2003-815992	20030626
JP 2006514916	T	20060518	JP 2004-518576	20030626
CN 1817903	A	20060816	CN 2006-10057471	20030626
US 2004229278	A1	20041118	US 2003-470606	20030703
US 7049416	B2	20060523		
ZA 2004009815	A	20060726	ZA 2004-9815	20041203
IN 2004CN03034	A	20060217	IN 2004-CN3034	20041231
MX 2005PA00048	A	20050408	MX 2005-PA48	20050103
NO 2005000639	A	20050401	NO 2005-639	20050204
US 2006160142	A1	20060720	US 2006-377531	20060316

PRIORITY APPLN. INFO.:		
EP 2002-15047	A	20020705
CN 2003-815992	A3	20030626
WO 2003-EP6725	W	20030626
US 2003-470606	A3	20030703

AB The invention refers to a protein from plasma membrane of adipocytes. The protein has specific binding affinity to phosphoinositolglycans. Preparation of phosphoinositolglycans and phosphoinositolglycan-peptides and their binding to the phosphoinositolglycan-binding protein is disclosed. The phosphoinositolglycan-binding protein regulates glucose uptake by circumventing the insulin signaling cascade. The phosphoinositolglycan-binding protein can be used for drug screening and for preparation of medicaments.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 7 OF 9 CAPLUS
ACCESSION NUMBER: 1998:379144 CAPLUS
DOCUMENT NUMBER: 129:54536
TITLE: Synthesis of inositolglycan with insulin-like effect
INVENTOR(S): Frick, Wendelin; Mueller, Guenter
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Ger. Offen., 20 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent

LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19649350	A1	19980604	DE 1996-19649350	19961128
IN 1997MA02394	A	20050304	IN 1997-MA2394	19971023
EP 845475	A1	19980603	EP 1997-119835	19971113
EP 845475	B1	20050309		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
AT 290541	T	20050315	AT 1997-119835	19971113
PT 845475	T	20050630	PT 1997-119835	19971113
ES 2237784	T3	20050801	ES 1997-119835	19971113
CA 2222103	A1	19980528	CA 1997-2222103	19971125
CA 2222103	C	20070828		
AU 9745382	A	19980604	AU 1997-45382	19971126
AU 728637	B2	20010111		
CN 1184112	A	19980610	CN 1997-122958	19971126
CN 1136223	B	20040128		
HU 9702242	A2	19981228	HU 1997-2242	19971126
US 6004938	A	19991221	US 1997-979865	19971126
JP 10158291	A	19980616	JP 1997-325508	19971127
BR 9706041	A	19991123	BR 1997-6041	19971127
RU 2178794	C2	20020127	RU 1997-120547	19971127
CZ 294886	B6	20050413	CZ 1997-3775	19971127
PL 188604	B1	20050331	PL 1997-323407	19971128
HK 1008786	A1	20040813	HK 1998-109588	19980731

PRIORITY APPLN. INFO.: DE 1996-19649350 A 19961128
OTHER SOURCE(S): MARPAT 129:54536
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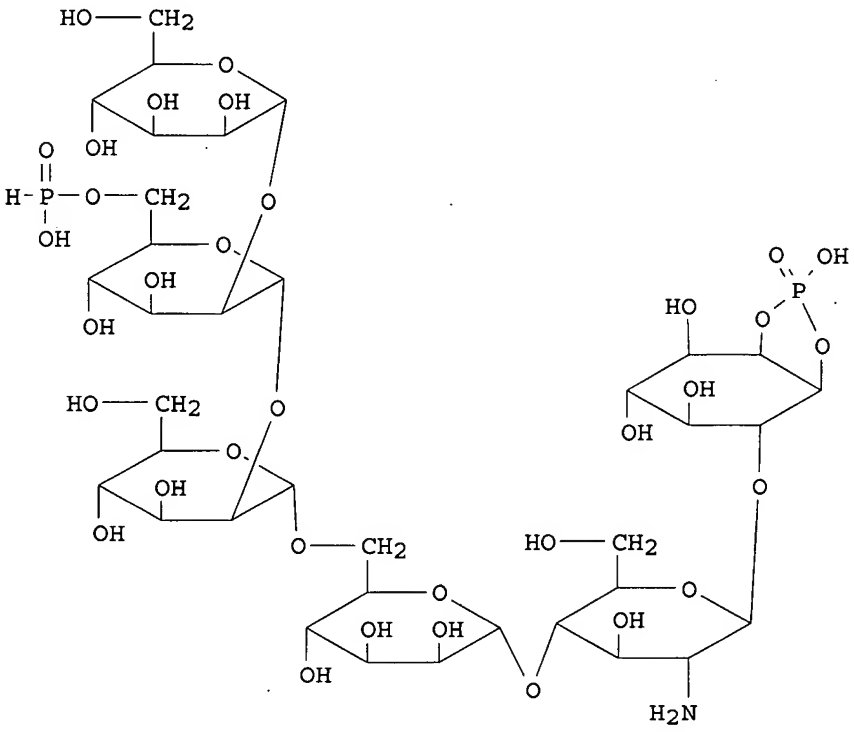


I

AB Title compds. of formula A-Z-R [A =(substituted) phosphate, thiophosphate, phosphite, thio-phosphite, sulfate, carbamate, amine, ureido, sulfonamido, sulfo, sulfonyl, or sulfhydryl; Z = 2-6 (substituted) sugar residues; R = (substituted) myo-inositol], useful in the treatment of diabetes mellitus or non-insulin-dependent diabetes, were prepared and tested. Thus (I) was synthesized in 10 steps from 2,3,4-tri-O-benzyl-6-O-acetyl-α-D mannopyranoside trichloroacetimidate, tert-butyldimethylsilyl 2-deoxy-2-azido-3,6-O-benzyl-β-D-glucopyranoside, and 1,2-O-cyclohexylidene-3,4,5-tris-O-benzyl-D-myo-inositol. In in-vitro tests with rat fat-cells, I had lipogenesis activity of 77% of insulin maximal effect at EC50 8.2 μM; it glucose transport activity was 41% of insulin maximal effect at 8.1 μM.

L8 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:773515 CAPLUS
DOCUMENT NUMBER: 128:87407
TITLE: Carbohydrate and peptide structure of the α- and β-subunits of human chorionic gonadotropin from normal and aberrant pregnancy and choriocarcinoma
AUTHOR(S): Elliott, Margatert M.; Kardana, Andrew; Lubstbader, Joyce W.; Cole, Laurence A.
CORPORATE SOURCE: Dep. Obstetrics, Yale Univ. Sch. Medicine, New Haven, CT, 06510, USA
SOURCE: Endocrine (1997), 7(1), 15-32
CODEN: EOCRE5; ISSN: 1355-008X
PUBLISHER: Humana Press Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Human chorionic gonadotropin (hCG), purified from the urine of 14 individuals with normal pregnancy, diabetic pregnancy, hydatidiform mole, or choriocarcinoma, plus two hCG standard prepns., was examined for concurrent peptide-sequence and asparagine (N)- and serine (O)-linked carbohydrate heterogeneity. Protein-sequence anal. was used to measure amino-terminal heterogeneity and the "nicking" of internal peptide bonds. The use of high-pH anion-exchange chromatog coupled with the increased sensitivity of pulsed amperometric detection (HPAE/PAD) revealed that distinct proportions of both hCG α- and β-subunits form normal and aberrant pregnancy are hyperglycolated, and that it is the extent of the specific subunit hyperglycosylation that significantly increases in malignant diseases. Peptide-bond nicking was restricted to a single linkage (β47-48) in normal and diabetic pregnancy, but occurred at two sites in standard prepns., at three sites in hydatidiform mole, and at three sites in choriocarcinoma β-subunit. In the carbohydrate moiety, α-subunit from normal pregnancy hCG contained non-fucosylated, mono-and biantennary N-linked structures (49.3 and 36.7%, means); fucosylated biantennary and triantennary oligosaccharides were also identified (7.3 and 6.9%). In choriocarcinoma α-subunit, the level of fucosylated biantennary increased, offset by a parallel decrease in the predominant biantennary structure of normal pregnancy. The β-subunit from normal pregnancy hCG contained fucosylated and nonfucosylated biantennary N-linked structures; however, mono- and triantennary oligosaccharides were also identified (4.6 and 13.7%). For O-linked glycans, in β-subunit from normal pregnancy, disaccharide-core structure predominated, whereas tetrasaccharide-core structure was also detected (15.6%). A trend was demonstrated in β-subunit: the proportions of the nonpredominating N- and O-linked oligosaccharides increased stepwise from normal pregnancy to hydatidiform mole to choriocarcinoma. The increases were: for monoantennary oligosaccharide, 4.6 to 6.8 to 11.2%; for triantennary, 13.7 to 26.7 to 51.5% and, for O-linked tetrasaccharide-core structure, 15.6 to 23.0 to 74.8%. For hCG from individual diabetic pregnancy, the principal N-linked structure (34.7%) was consistent with a biantennary oligosaccharide previously reported only in carcinoma; and sialylation of

both N- and O-linked antennae was significantly decreased compared to that of normal pregnancy. Taken collectively, the distinctive patterns of subunit-specific, predominant oligosaccharides appear to reflect the steric effect of local protein structure during glycosylation processes. The evidence of alternative or "hyperbranched: glycoforms on both α- and β-subunits, seen at low levels in normal pregnancy and at increased or even predominant levels in malignant disease, suggests alternative substrate accessibility for Golgi processing enzymes, α1,6-fucosyltransferase and N-acetylglycosaminyltransferase IV, in distinct proportions of subunit mols.

REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:662332 CAPLUS
DOCUMENT NUMBER: 123:83943
TITLE: Preparation of physiologically active inositol glycans
INVENTOR(S): Muragata, Tsutomu; Kaneko, Masami; Saito, Yutaka; Saito, Hiromitsu; Suzuki, Susumu; Ogawa, Tomoya
PATENT ASSIGNEE(S): Kyowa Hakko Kogyo Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06293790	A	19941021	JP 1993-81955	19930408

PRIORITY APPLN. INFO.: JP 1993-81955 19930408
OTHER SOURCE(S): MARPAT 123:83943
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. [I; R1 = P(O)(OH)2 and R2 = H or R1R2 = P(O)OH; R3, R4, R5, R6 = H, OH; R7 = H, P(O)(OH)2; Q; wherein R8 = H, OH, Q1; R9 = H, OH, Q2; R10, R11 = H, OH; R12, R13, R14 = H, P(O)(OH)2], having insulin-like activity and useful for the treatment of diabetes, are prepared Thus, inositol-containing oligosaccharide (II), prepared by stepwise glycosidation of protected monosaccharide derivs., in vitro promoted the biosynthesis of glycogen and fat in rat isolated fat cells by 94% at 10-9 M and 92% at 10-8 M, resp., compared to insulin (100%) at 10-9 M.

=> d L8 1-9 ibib abs hitstr

L8 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:728975 CAPLUS
DOCUMENT NUMBER: 147:141553
TITLE: Manufacture of CTLA4 fusion proteins with immunoglobulins with CHO cells carrying multiple integrated copies of the expression construct
INVENTOR(S): Leister, Kirk J.; Schaefer, Eugene J.; Bates, Ronald; Bramhall, Elizabeth A.; Didio, David M.; Donaldson, Robert; Flesher, Alan R.; Grace, Michael; Haggerty, Helen G.; Hosselet, Stephen; Kirkley, David H.; Tabor, John M.; Tay, Lee K.; Thammana, Pallaiah; Velayudhan, Ajoy; Smolin, David E.; Russell, Reb J.; Vanden Boom, Thomas; Schicho, Richard N.

PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA
SOURCE: PCT Int. Appl., 790pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007076032	A2	20070705	WO 2006-US49074	20061219

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.:

US 2005-752150P	P	20051220
US 2005-752267P	P	20051220
US 2006-849543P	P	20061005

AB Methods of manufacturing fusion proteins of human CTLA4 antigen with Ig heavy chains are described. The fusion proteins are useful as immunosuppressants in the treatment of a number of inflammatory and immune disorders. Expression vectors for the manufacture of the protein in CHO cells are described. The protein is characterized in terms of glycosidation and methods of purifying it to a form suitable for therapeutic are described.

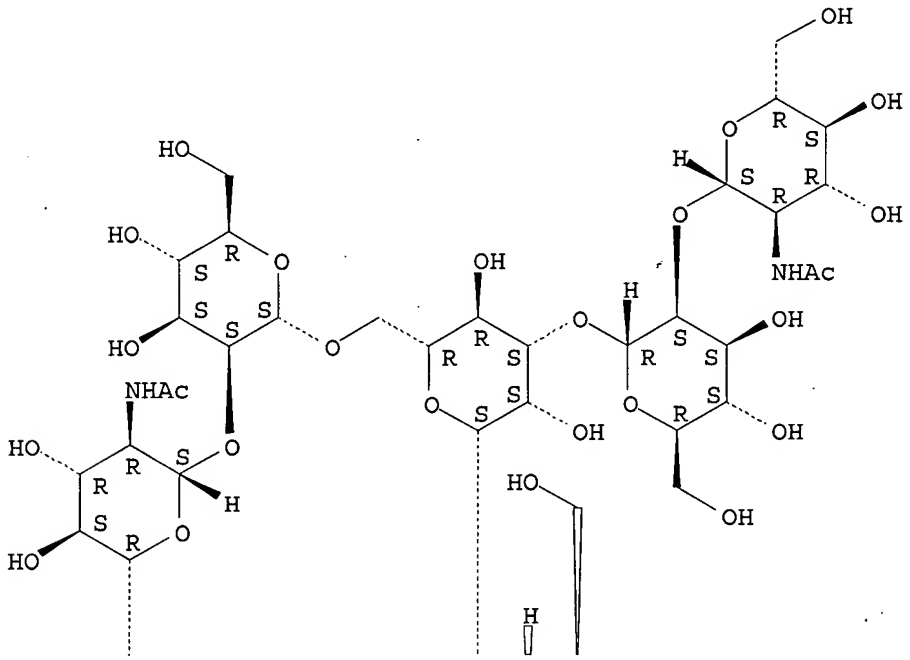
IT 262418-88-2D, conjugates with CTLA4 fusion proteins with Igs
321142-61-4D, trisialogalactosyl derivs., conjugates with CTLA4 fusion proteins with Igs 572890-41-6D, conjugates with CTLA4 fusion proteins with Igs 943142-01-6D, conjugates with CTLA4 fusion proteins with Igs 943142-02-7D, disialo derivs., conjugates with CTLA4 fusion proteins with Igs
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(glycosidation moiety; manufacture of CTLA4 fusion proteins with Igs with CHO cells carrying multiple integrated copies of expression construct)

RN 262418-88-2 CAPLUS

CN D-Glucose, O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[6-deoxy-α-L-galactopyranosyl-(1→3)]-2-(acetylamino)-2-deoxy- (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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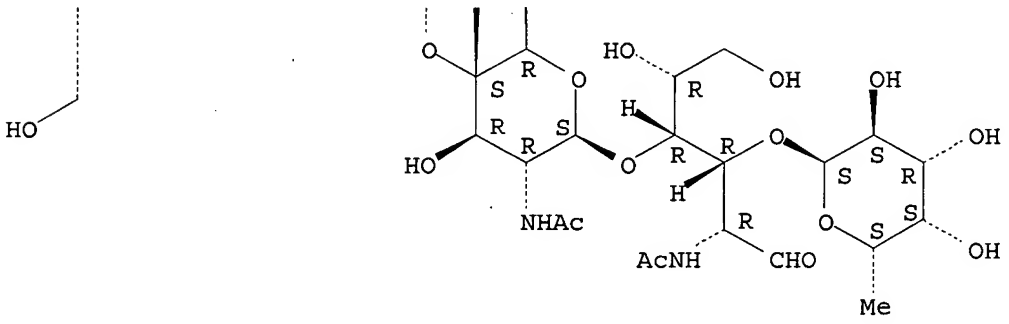

RN 321142-61-4 CAPLUS

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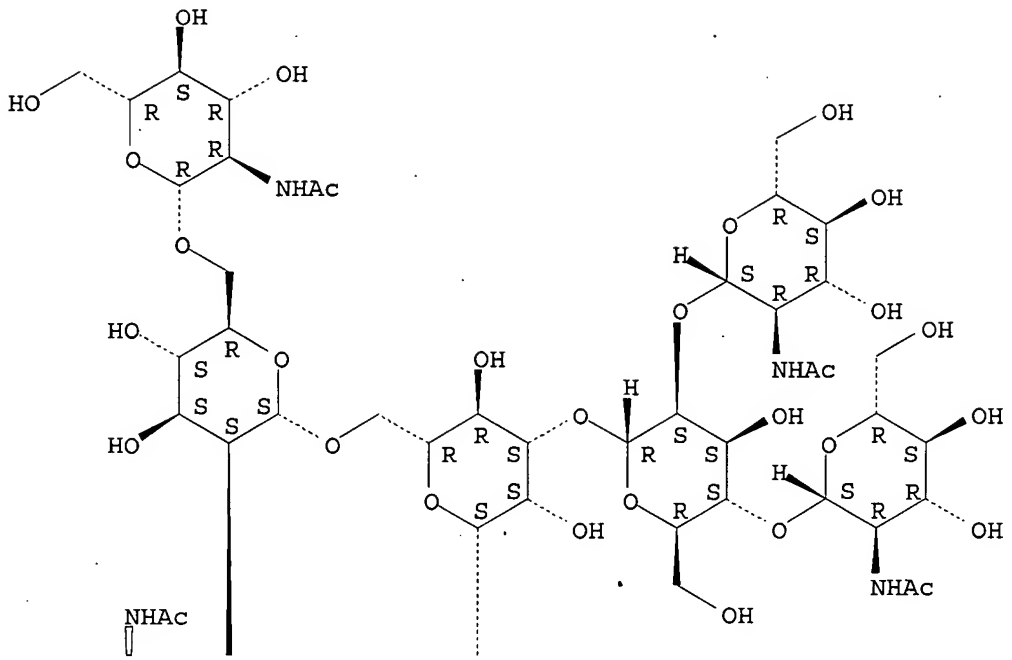
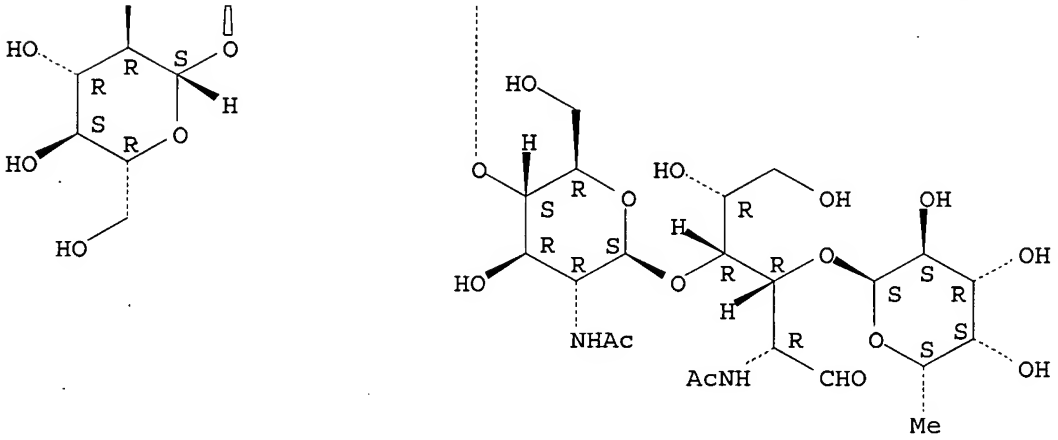
Absolute stereochemistry.





RN 572890-41-6 CAPLUS

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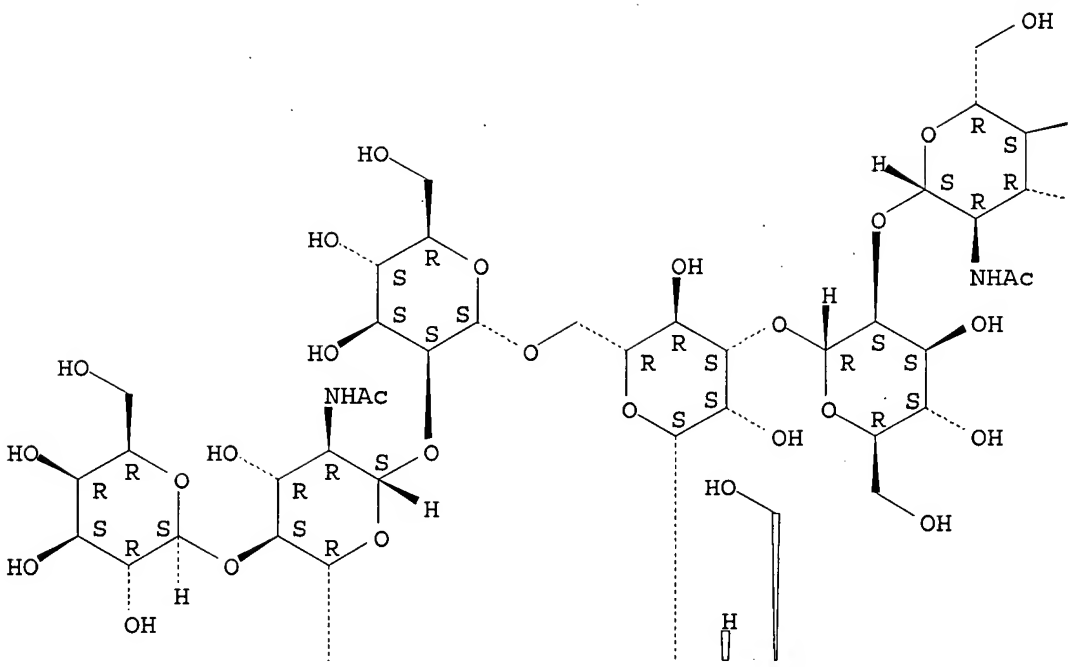
Absolute stereochemistry.

PAGE 1-A



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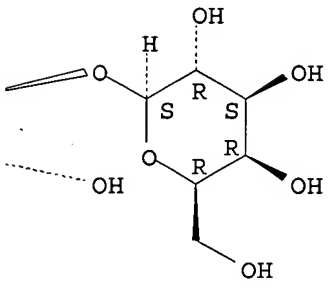

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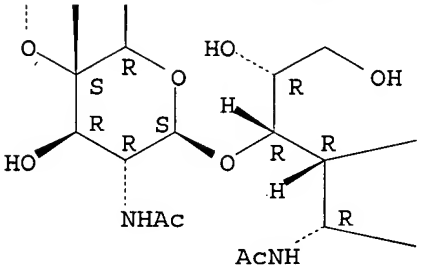

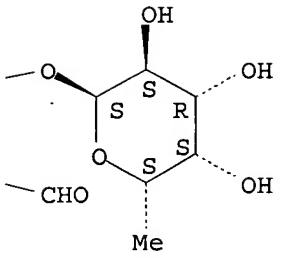

RN 943142-01-6 CAPLUS
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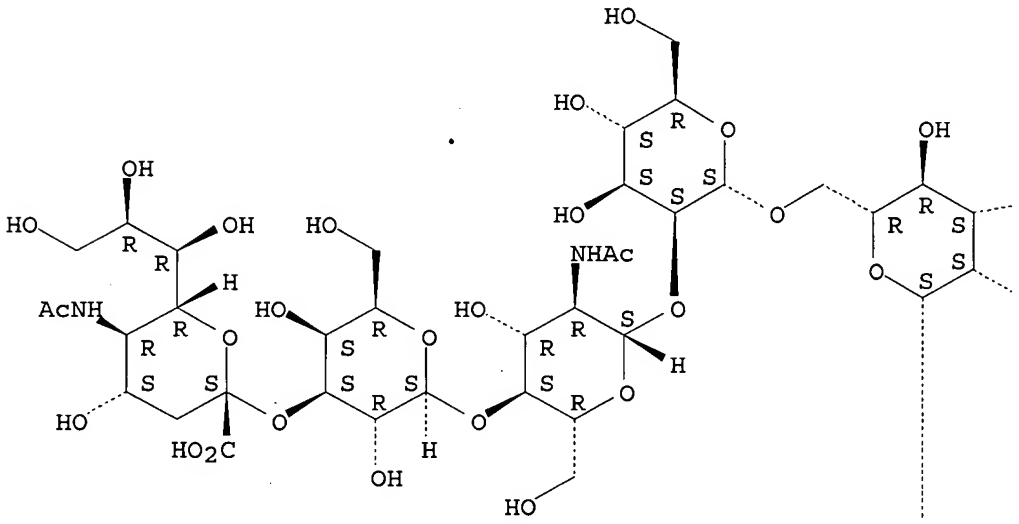
Absolute stereochemistry.



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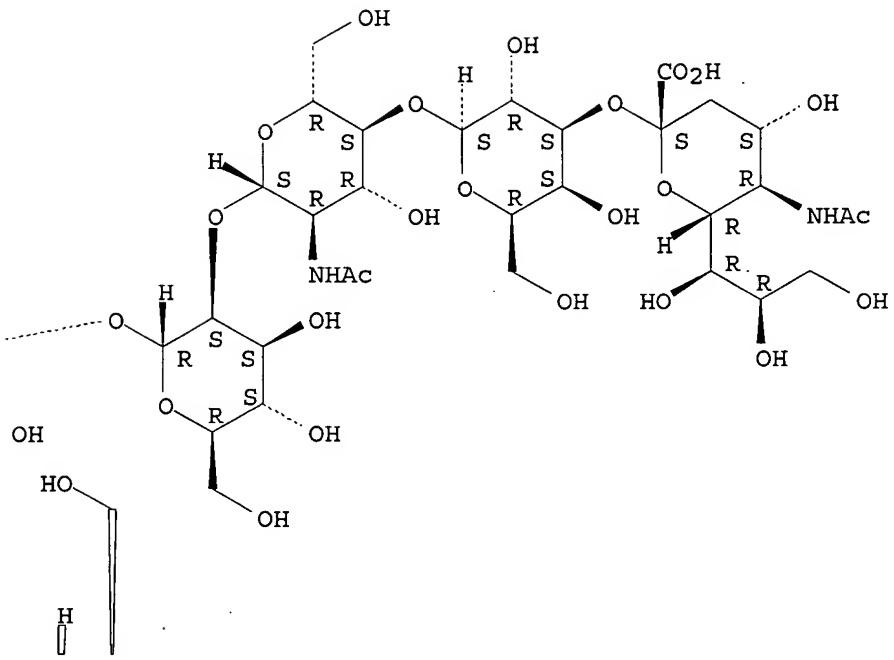

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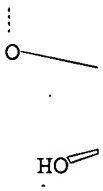

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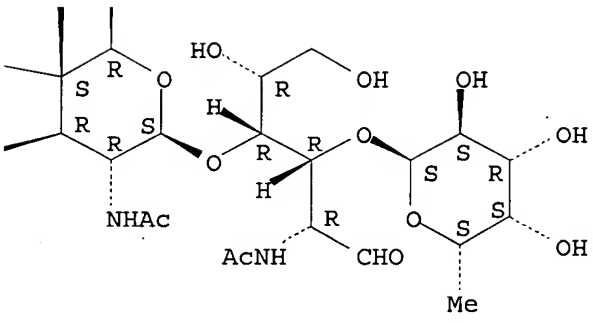

RN 943142-02-7 CAPLUS
CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.

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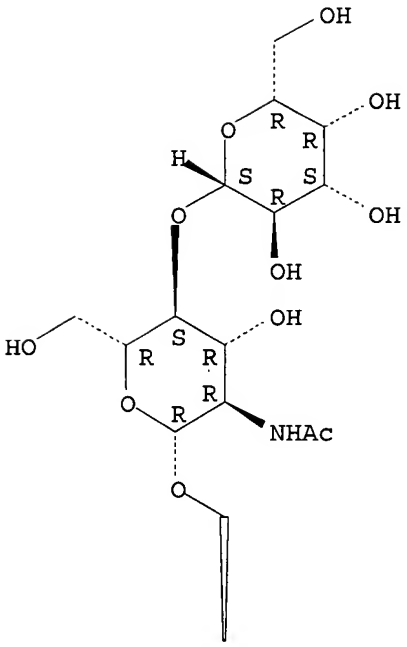

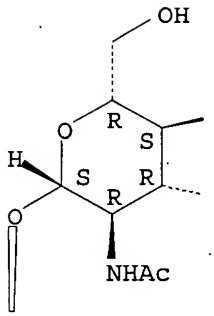

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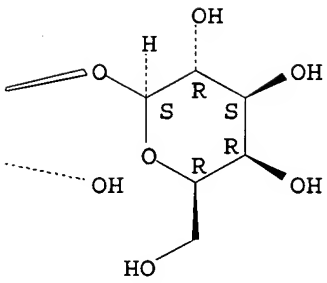

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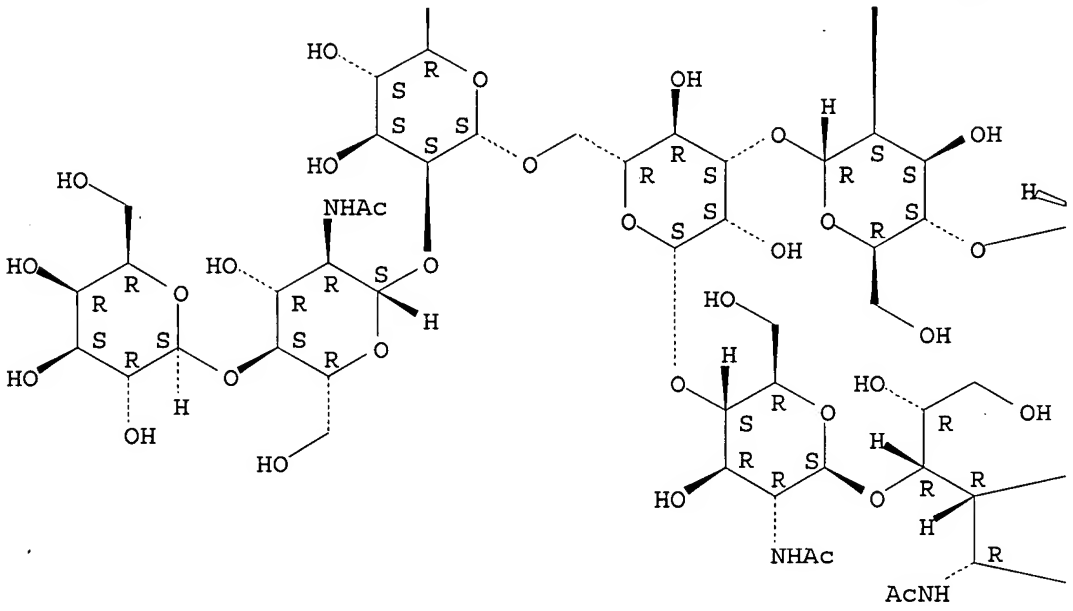

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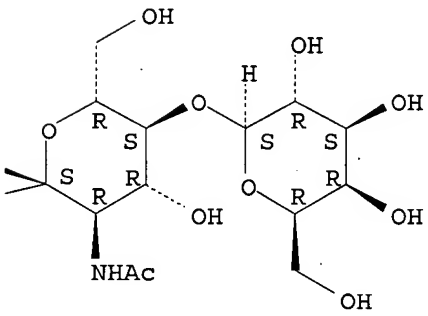

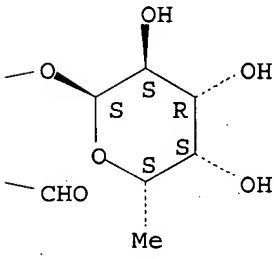

L8 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:619364 CAPLUS

DOCUMENT NUMBER: 147:53140

TITLE: Preparation of glucagon-like peptide 1-related sugar chain adducts of peptides and pharmaceutical comprising the same as active ingredient for treating diabetes

INVENTOR(S): Ito, Takaomi; Takimoto, Akio; Nagatome, Hirofumi; Fumoto, Masataka; Ueda, Taichi; Nishimura, Shin-Ichiro

PATENT ASSIGNEE(S): Shionogi & Co., Ltd., Japan; National University Corporation Hokkaido University

SOURCE: PCT Int. Appl., 98pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007063907	A1	20070607	WO 2006-JP323834	20061129

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: JP 2005-346905 A 20051130
GI

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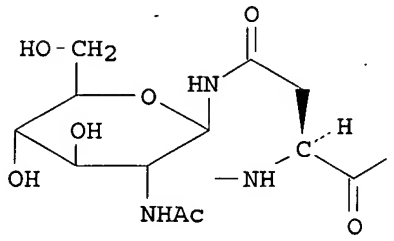

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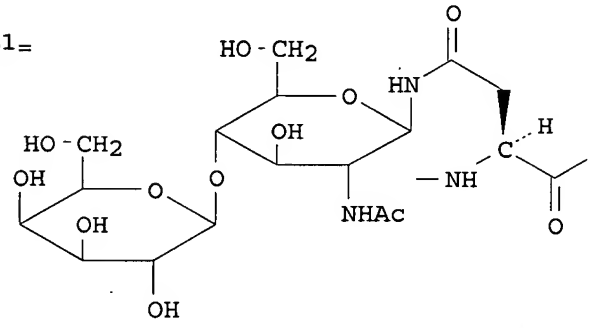


AB Glucagon-like peptide 1 (GLP-1) derivs., i.e. sugar chain adducts of HAEGTFTSDVSSYLEGQAAKEFIAWLVKGR-NH2 [GLP-1 (7-36)amide] and HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS-NH2 (exendin-4) are prepared by modifying peptide side chains with sugar chains. These glycopeptides are non-susceptible to enzymic degradation by dipeptidyl peptidase IV (DPP-IV) or neutral endopeptidase and possess long-lasting insulin secretion-promoting activity. Thus, a solution containing 2 mM HAEGTFTSDVSSYLEGQAAKEFIAWLVXGR-NH2 (I; X = Q), 5 mM UDP-galactose, 0.2 U/mL β1,4-galactosyltransferase, and 10 mM MnCl2 in 12.5 mM HEPES buffer (pH 7.5) was allowed to react at 25° for 2 h to give I (X = Q1). I (X = Q1) showed EC50 of 0.11 nM for increasing the production of cAMP in CHO cells expressing GLP-1 receptor and showed IC50 of 0.76 nM for inhibiting the binding of [125I]GLP-1(7-36) to GLP-1 receptor. It showed resistance to hydrolysis by human recombinant DPP-IV with dynamic parameter kcat/KM of 2.5 (kcat = reaction

rate constant [s-1], KM = Michaelis-Menten constant [M]).

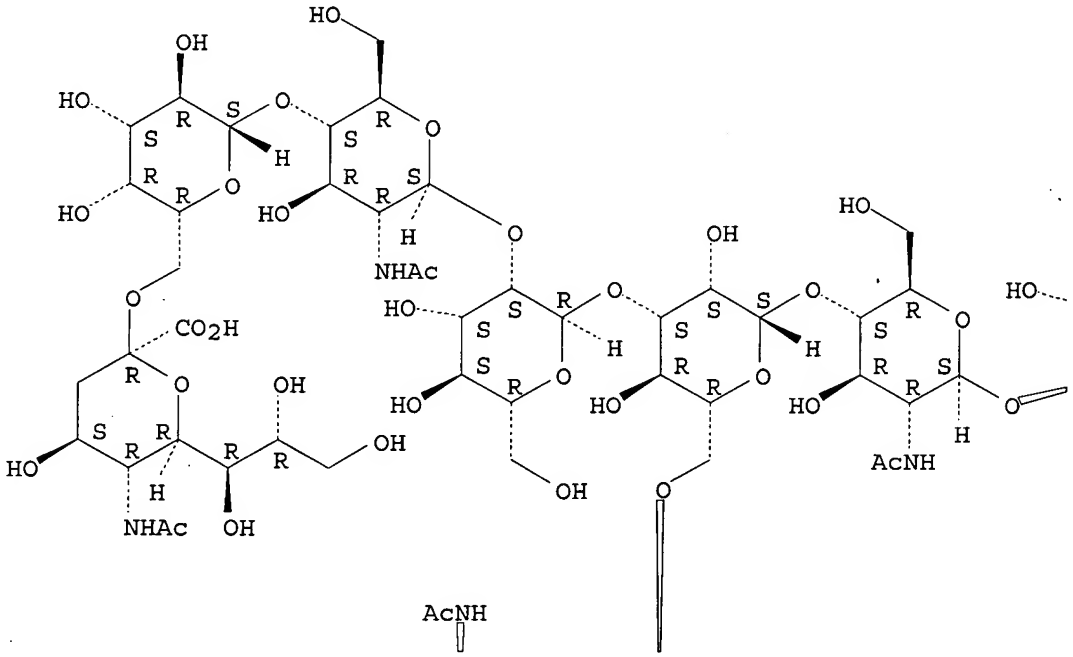
IT 491844-97-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of glucagon-like peptide 1 and exendin-4 related glycopeptides as insulin secretion promoters for treating diabetes)

RN 491844-97-4 CAPLUS

CN L-Asparagine, N-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl]-N2-[(9H-fluoren-9-ylmethoxy)carbonyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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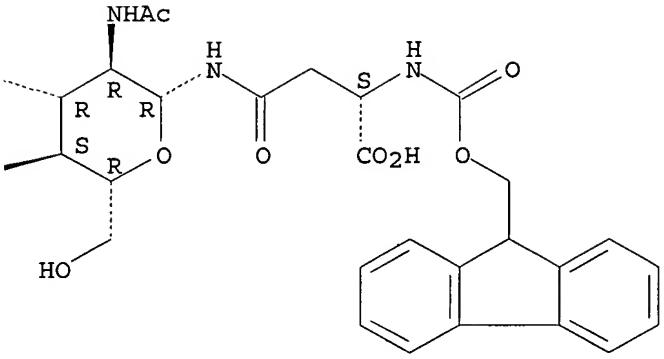
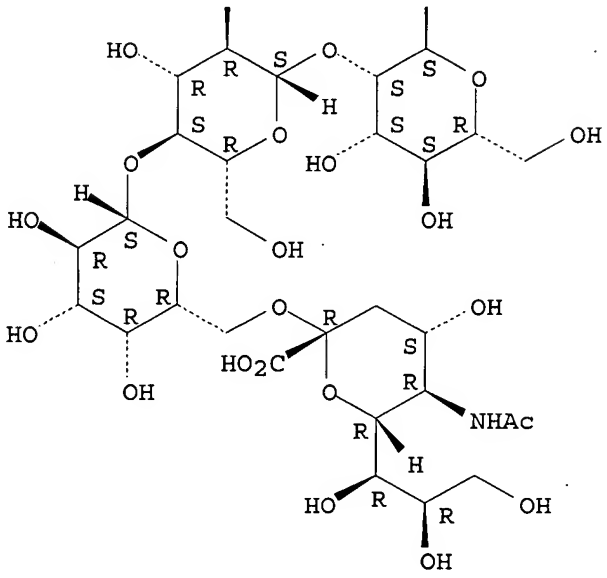


PAGE 2-A



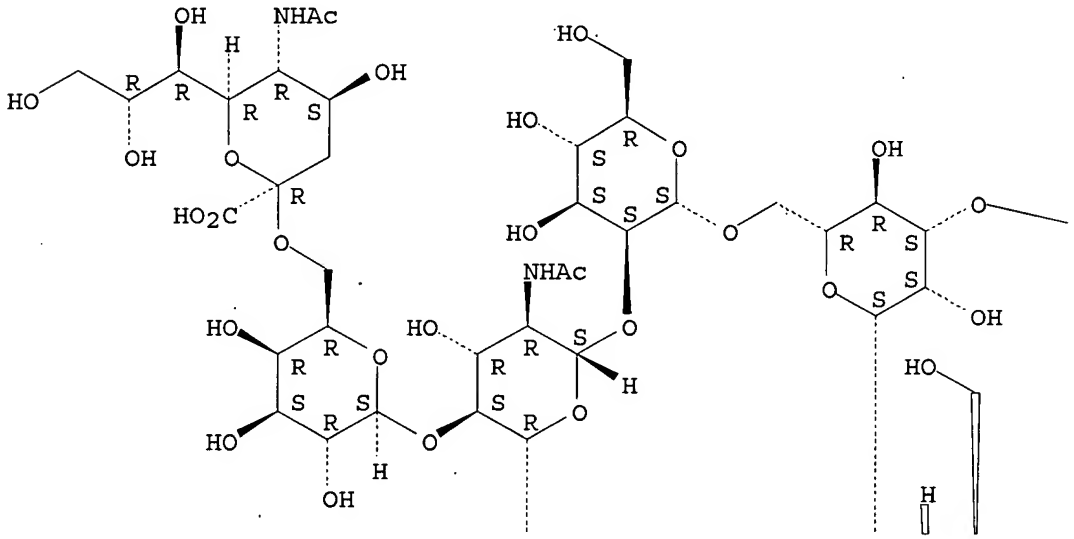
IT 68141-38-8P 940008-39-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of glucagon-like peptide 1 and exendin-4 related glycopeptides as insulin secretion promoters for treating diabetes)

RN 68141-38-8 CAPLUS

CN L-Asparagine, N-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl]- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

PAGE 1-A



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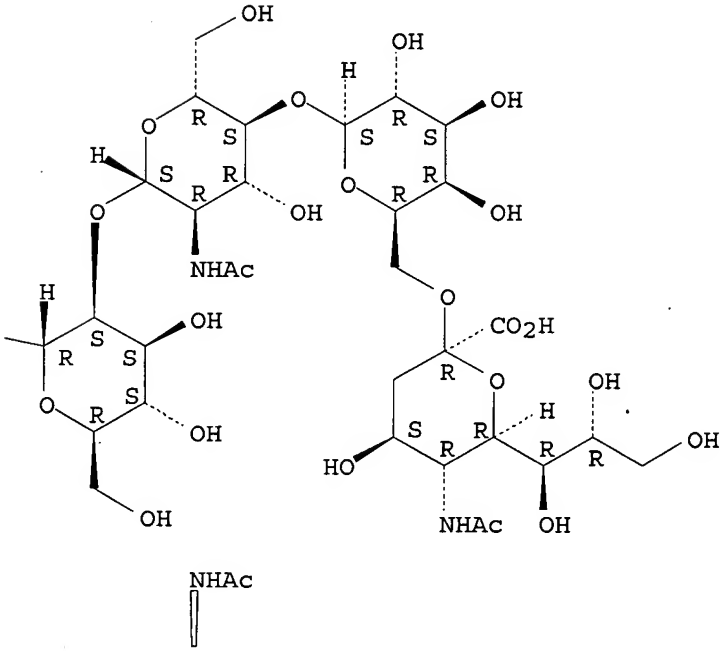

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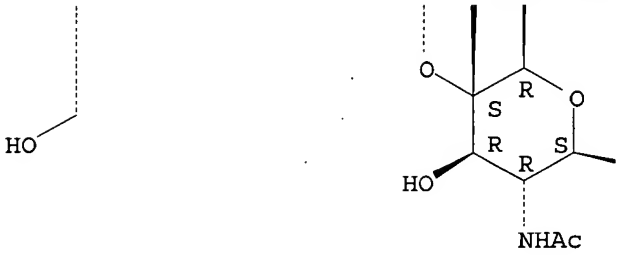

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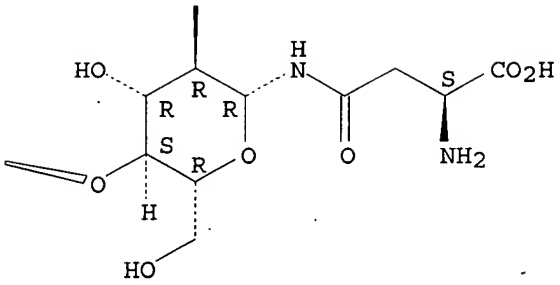
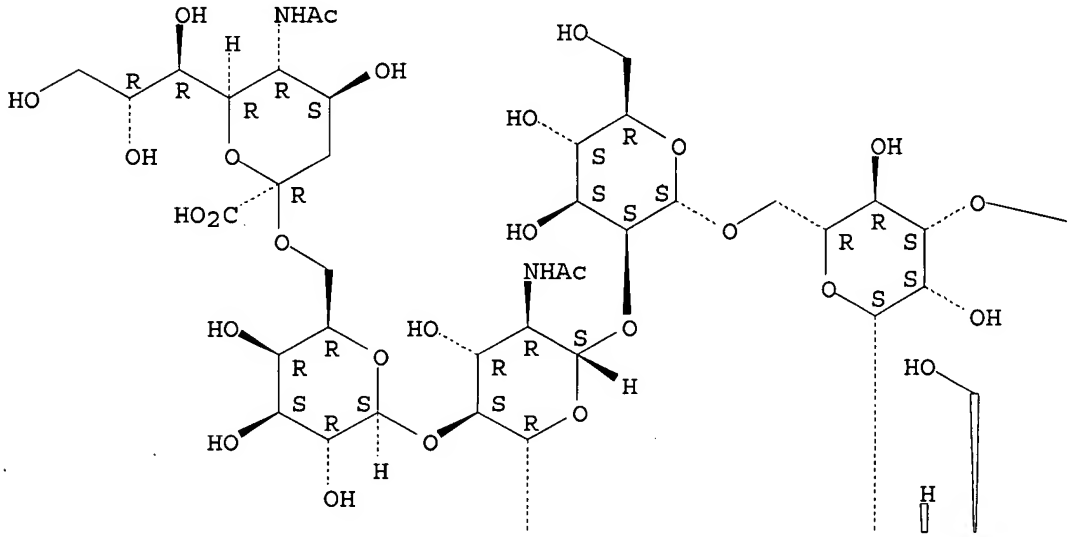


RN 940008-39-9 CAPLUS

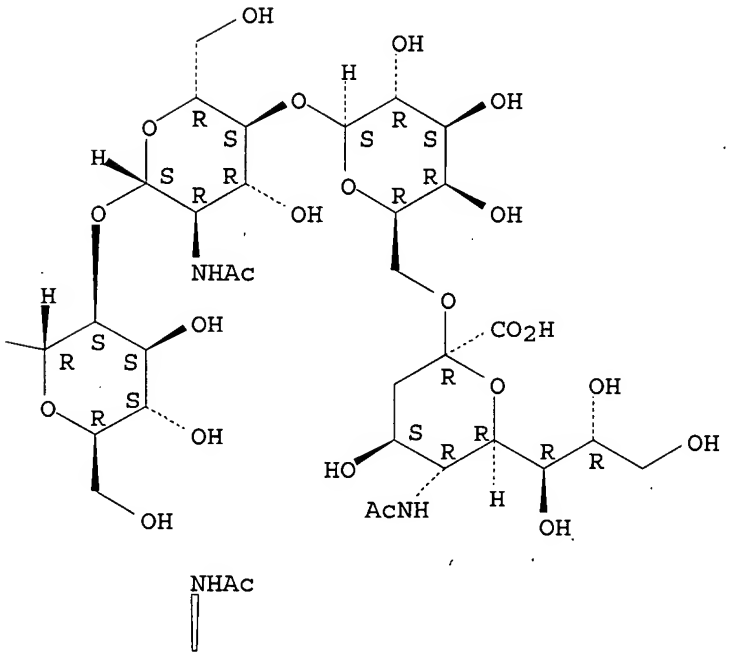
CN L-Asparagine, N-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl]-N2-(2-iodoacetyl)- (CA INDEX NAME)

Absolute stereochemistry.

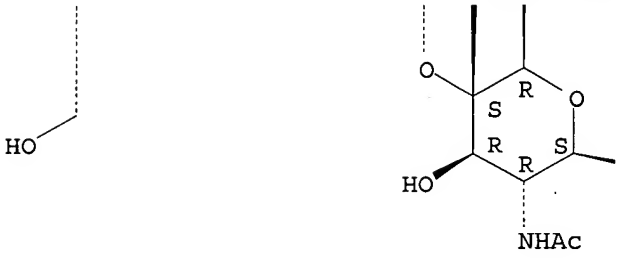
PAGE 1-A



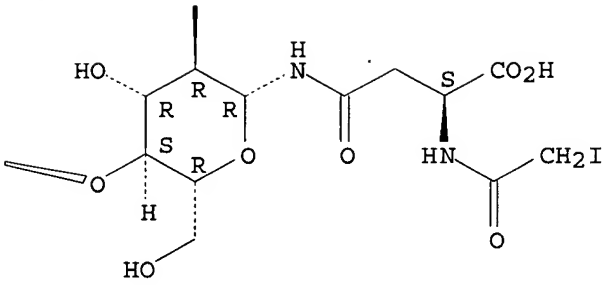
PAGE 1-B



PAGE 2-A



PAGE 2-B



REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1328930 CAPLUS
DOCUMENT NUMBER: 144:64386
TITLE: Glycosylphosphatidylinositol (GPI) glycan signaling via integrins functioning as glycan-specific receptors
INVENTOR(S): Schofield, Louis
PATENT ASSIGNEE(S): The Walter and Eliza Hall Institute of Medical Research, Australia
SOURCE: PCT Int. Appl., 81 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005120519	A1	20051222	WO 2005-AU842	20050610
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2005251388	A1	20051222	AU 2005-251388	20050610
CA 2569891	A1	20051222	CA 2005-2569891	20050610
EP 1778253	A1	20070502	EP 2005-749464	20050610
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,				

IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR

PRIORITY APPLN. INFO.: AU 2004-903183 A 20040610
WO 2005-AU842 W 20050610

AB The invention discloses a method for modulating integrin-mediated cellular activity and agents useful for same. More particularly, the invention discloses a method for modulating αβ-integrin-mediated cellular activity by modulating GPI-related signaling. The method of the invention is useful e.g. in the treatment and/or prophylaxis of conditions characterized by aberrant, unwanted, or otherwise inappropriate integrin-mediated cellular activity. The invention further discloses methods for identifying and/or designing agents capable of modulating the integrin-dependent signaling mechanism.

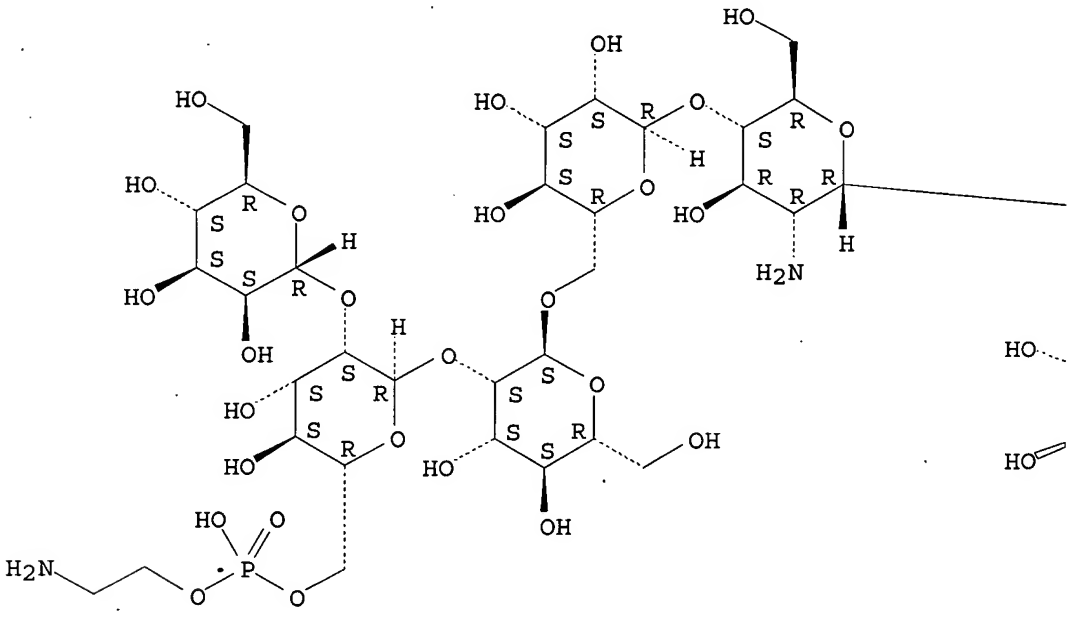
IT 460095-54-9
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(glycosylphosphatidylinositol glycan signaling via integrins functioning as glycan-specific receptors)

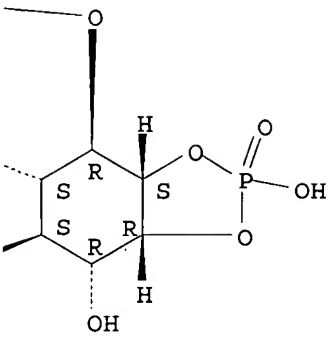
RN 460095-54-9 CAPLUS

CN D-myo-Inositol, O-α-D-mannopyranosyl-(1→2)-O-6-O-[(2-aminoethoxy)hydroxyphosphinyl]-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-α-D-mannopyranosyl-(1→4)-O-2-amino-2-deoxy-α-D-glucopyranosyl-(1→6)-, cyclic 1,2-(hydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A





REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:1027067 CAPLUS
DOCUMENT NUMBER: 143:321814
TITLE: High throughput glycan microarrays for diagnosis and compositions of glycans for immunization and therapy
INVENTOR(S): Blixt, Ola; Head, Steve
PATENT ASSIGNEE(S): The Scripps Research Institute, USA
SOURCE: PCT Int. Appl., 228 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2005088310	A2	20050922	WO 2005-US7370		20050307
WO 2005088310	A3	20051124			
WO 2005088310	A9	20061019			
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW					
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
EP 1723422	A2	20061122	EP 2005-730370		20050307
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR					
JP 2007527539	T	20070927	JP 2007-502085		20050307
US 2007059769	A1	20070315	US 2006-516014		20060905
PRIORITY APPLN. INFO.:			US 2004-550667P	P	20040305
			US 2004-558598P	P	20040331
			US 2004-629833P	P	20041119
			WO 2005-US7370	W	20050307

AB The invention provides arrays of glycans for detecting entities that bind to glycans. In some embodiments, the arrays can be used to detect disease, blood types, antibodies, bacterial or viral infection, cancer, and the like. The invention also provides methods and kits for such detection. In another embodiment, the invention provides methods of preventing or treating disease in a mammal by administering to the mammal a composition that includes at least glycan.

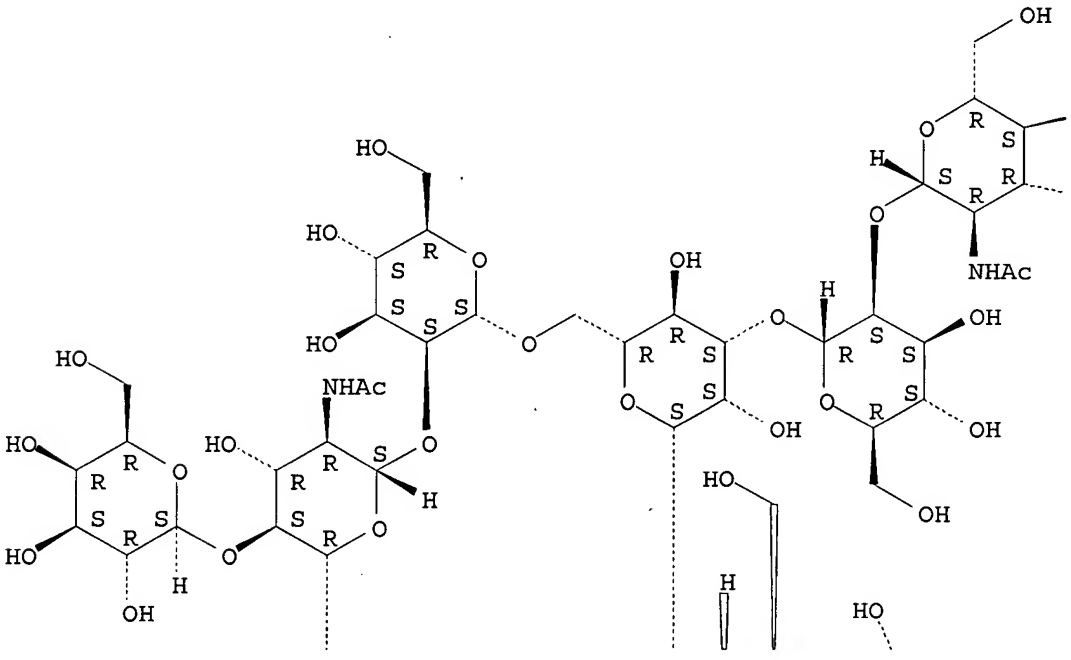
IT 71496-53-2D, conjugated to NHS-activated glass support via spacer
71496-55-4D, conjugated to NHS-activated glass support via spacer
79295-70-8D, conjugated to NHS-activated glass support via spacer
84808-02-6D, conjugated to NHS-activated glass support via spacer
85541-87-3D, conjugated to NHS-activated glass support via spacer
864968-67-2D, conjugated to NHS-activated glass support
RL: ARG (Analytical reagent use); DEV (Device component use); DGN (Diagnostic use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(high throughput glycan microarrays for diagnosis and compns. of glycans for immunization and therapy)

RN 71496-53-2 CAPLUS

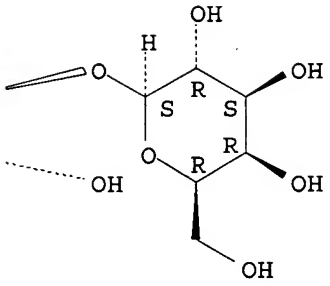
CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (CA INDEX NAME)

Absolute stereochemistry.

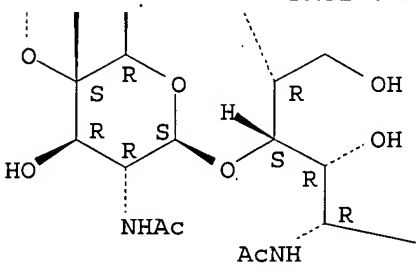
PAGE 1-A



PAGE 1-B



PAGE 2-A



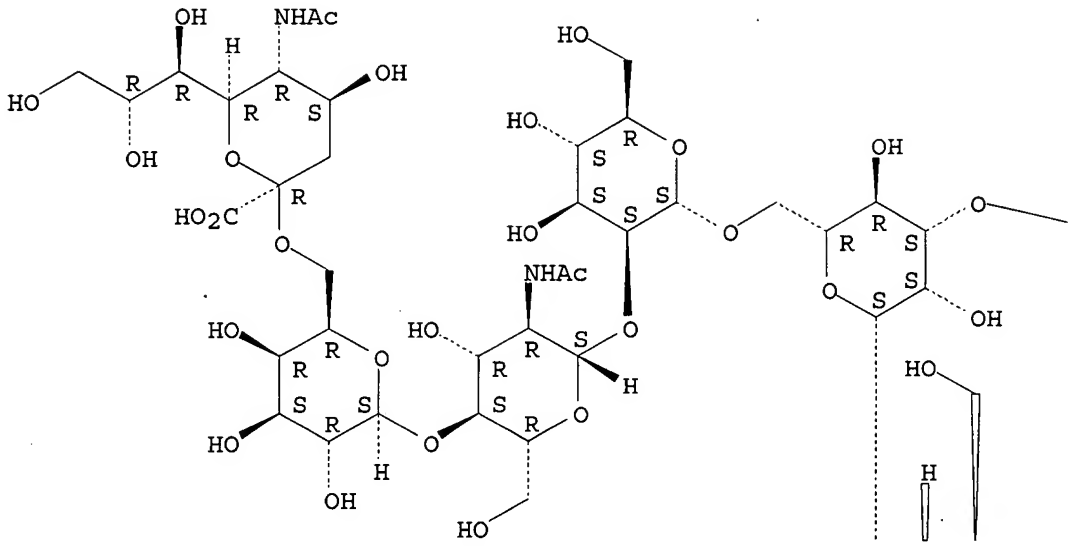
PAGE 2-B

—CHO

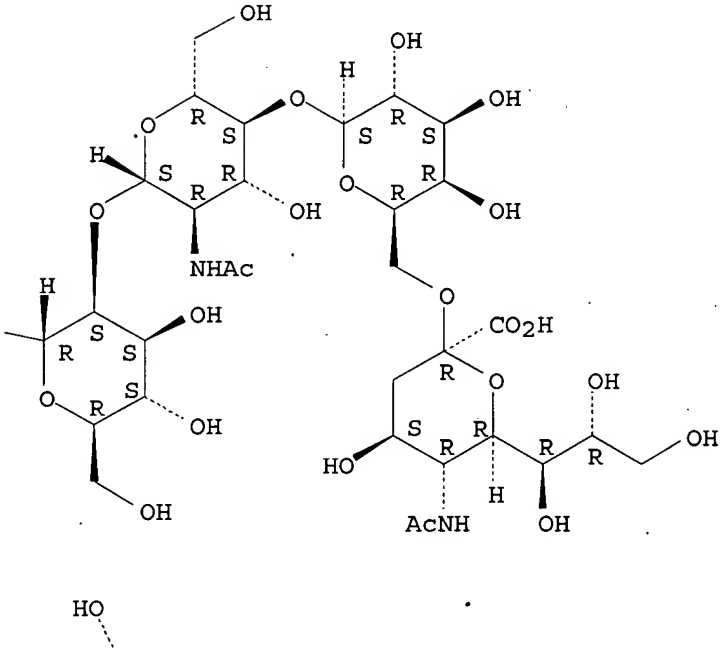
RN 71496-55-4 CAPLUS
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (CA INDEX NAME)

Absolute stereochemistry.

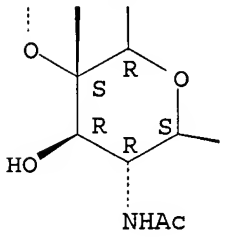
PAGE 1-A



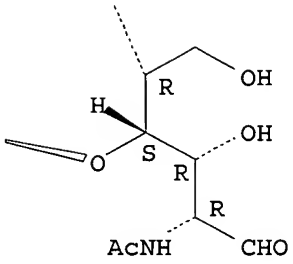
PAGE 1-B



PAGE 2-A



PAGE 2-B

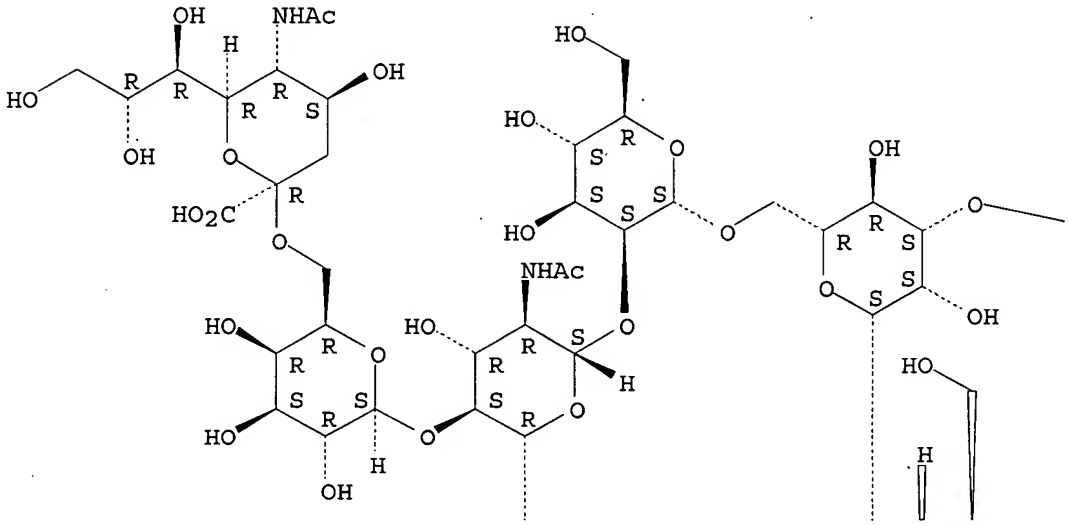


RN 79295-70-8 CAPLUS

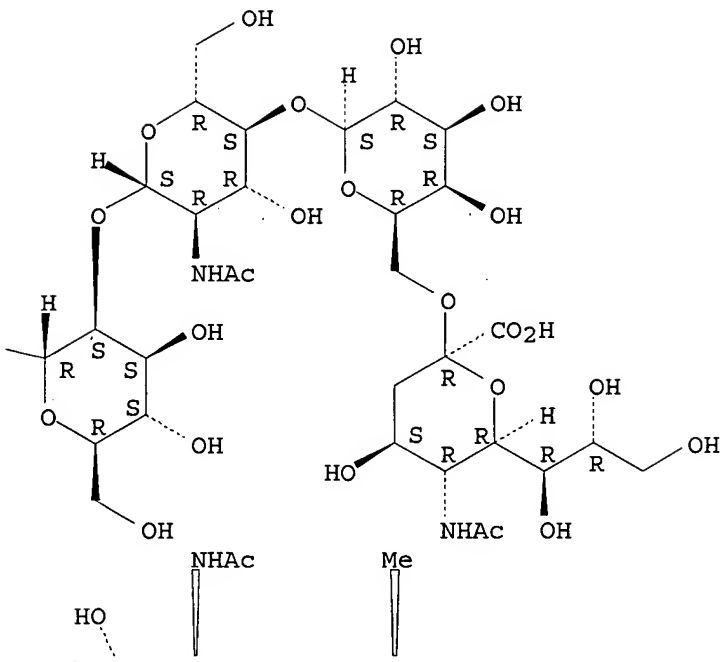
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[6-deoxy-α-L-galactopyranosyl-(1→6)]-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

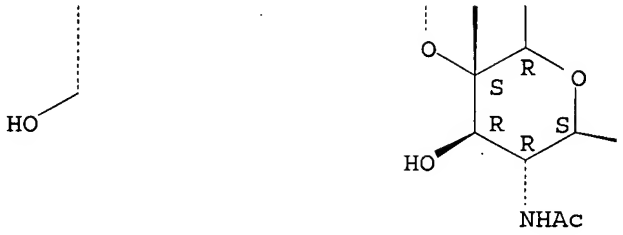
PAGE 1-A



PAGE 1-B



PAGE 2-A



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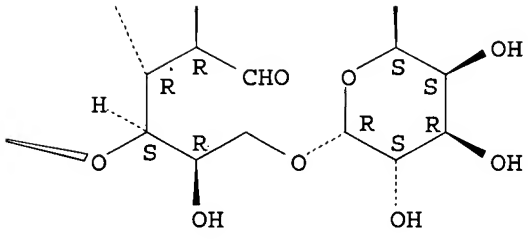
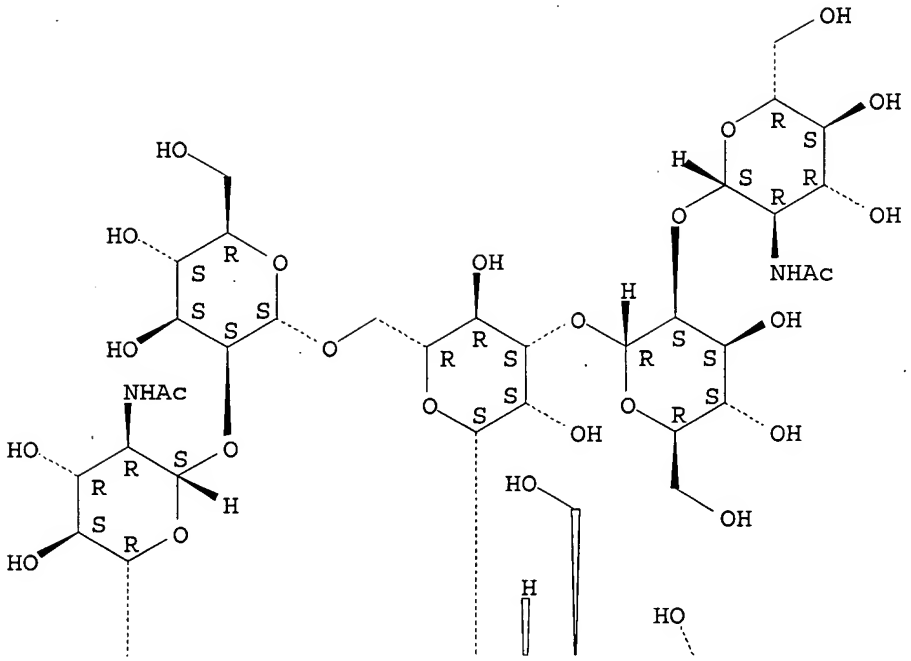


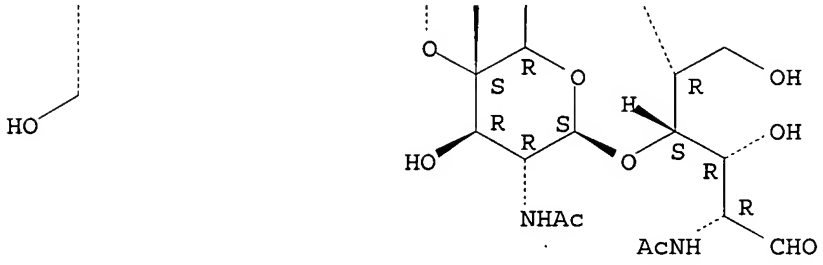
RN 84808-02-6 CAPLUS
CN D-Glucose, O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

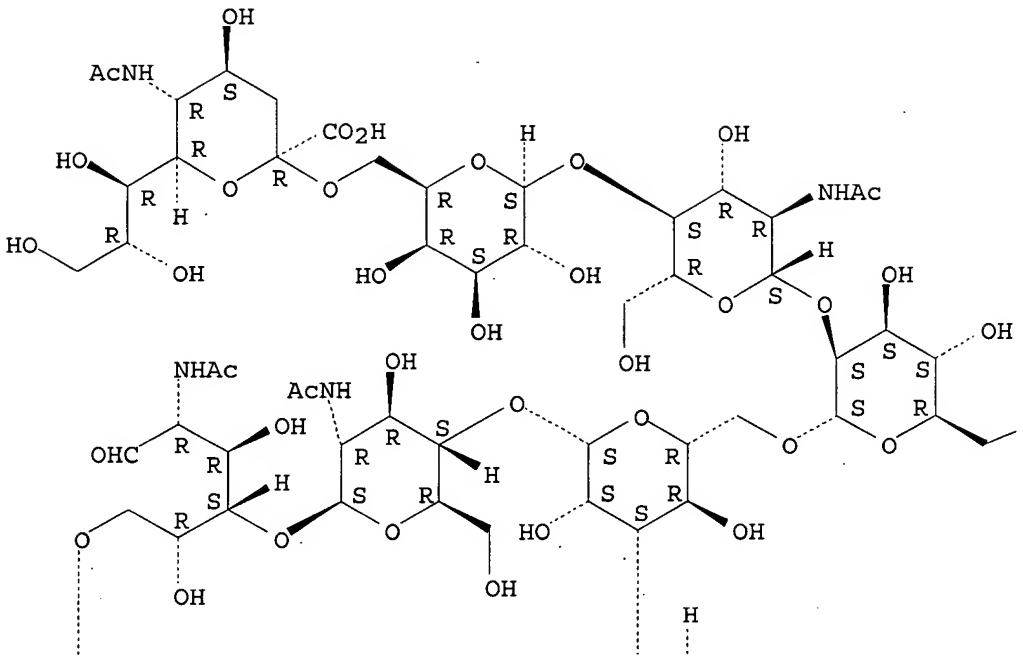


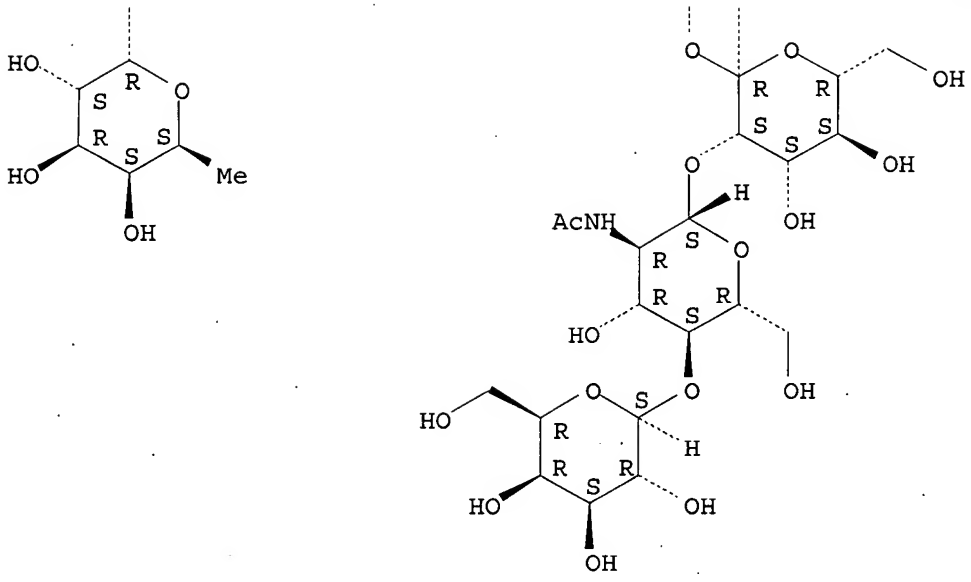
PAGE 2-A



RN 85541-87-3 CAPLUS
CN D-Glucose, O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[6-deoxy-α-L-galactopyranosyl-(1→6)]-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

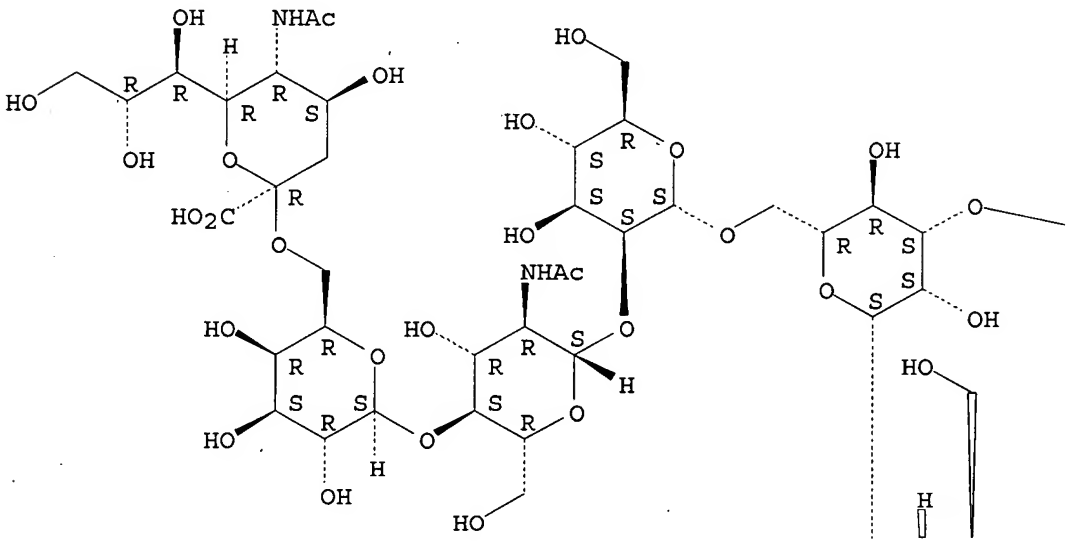
Absolute stereochemistry.



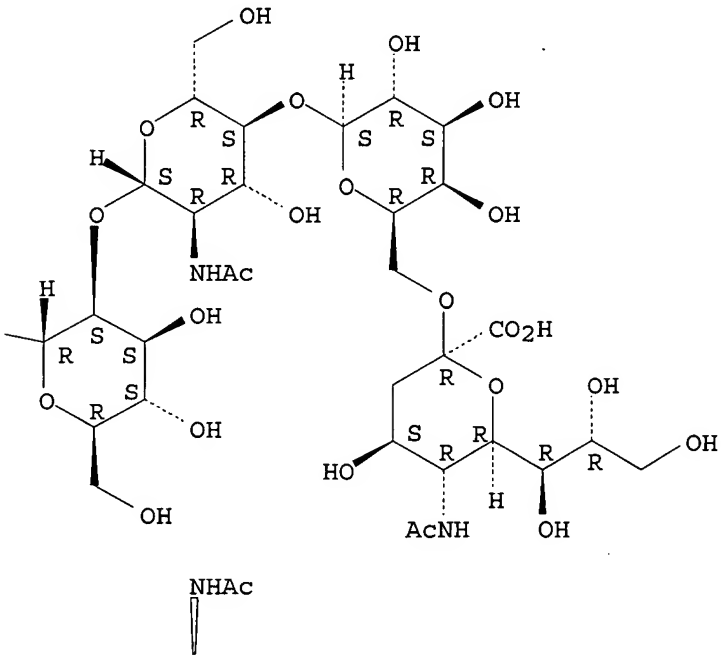


RN 864968-67-2 CAPLUS
CN β-D-Glucopyranoside, 3-aminopropyl O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-(N-acetyl-α-neuraminosyl)-(2→6)-O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

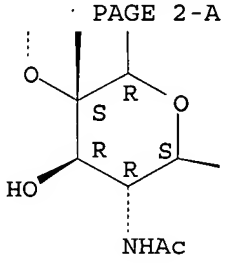
Absolute stereochemistry.



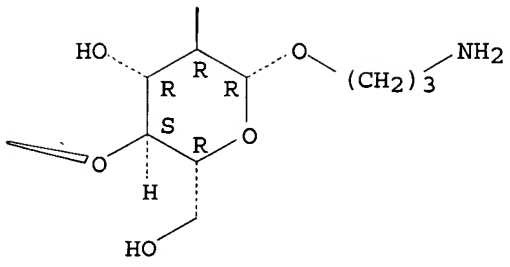
PAGE 1-B



PAGE 2-A



PAGE 2-B



L8 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:179984 CAPLUS
DOCUMENT NUMBER: 140:213588
TITLE: IgG possessing an oligosaccharide, and its use in diagnosing diabetic nephropathy and membranous nephropathy
INVENTOR(S): Kojima, Naoya; Nakata, Munehiro
PATENT ASSIGNEE(S): Tokai University, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004067732	A	20040304	JP 2002-225198	20020801

PRIORITY APPLN. INFO.: JP 2002-225198 20020801

AB A method is provided for diagnosing diabetic nephropathy and membranous nephropathy by detecting a novel single chain-type oligosaccharide specifically recognized in the blood serum IgG from a patient of diabetic nephropathy and membranous nephropathy or the IgG possessing such an oligosaccharide.

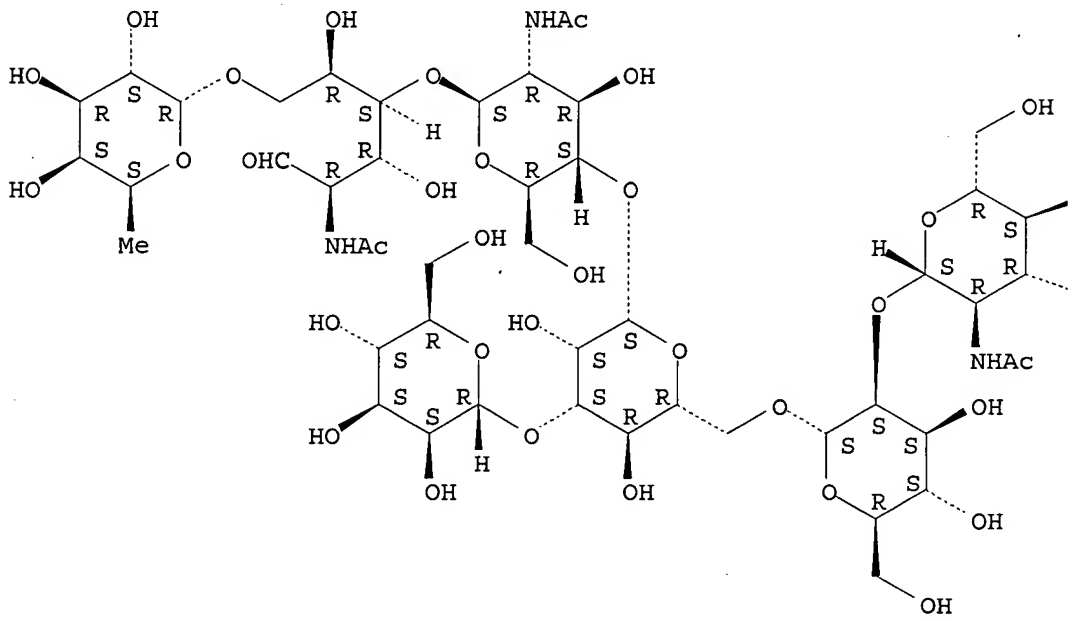
IT 110387-54-7 444813-18-7
RL: ANT (Analyte); DGN (Diagnostic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(method for diagnosing diabetic nephropathy and membranous nephropathy by detecting novel single chain-type oligosaccharide specifically recognized in blood serum IgG)

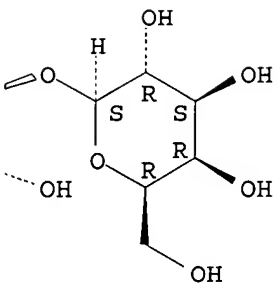
RN 110387-54-7 CAPLUS

CN D-Glucose, O-6-deoxy-α-L-galactopyranosyl-(1→6)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-[α-D-mannopyranosyl-(1→3)]-O-β-D-mannopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

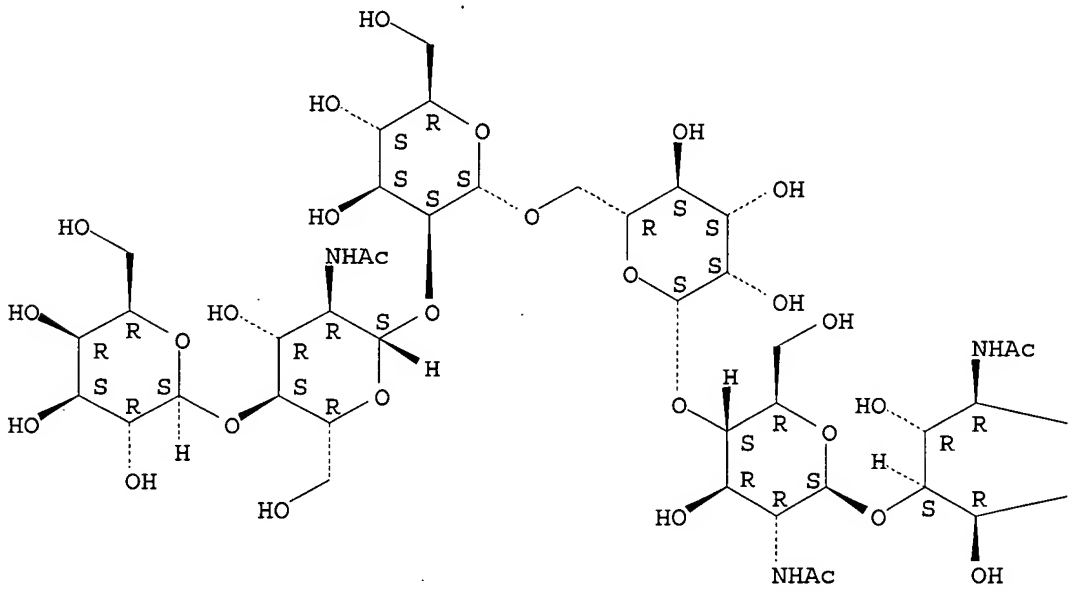
PAGE 1-A

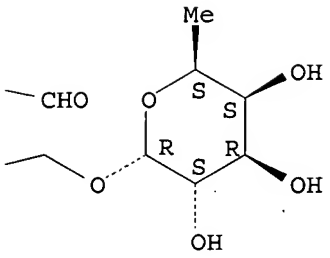




RN 444813-18-7 CAPLUS
CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[6-deoxy-α-L-galactopyranosyl-(1→6)]-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.





L8 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:17423 CAPLUS
DOCUMENT NUMBER: 140:72925
TITLE: Characterization and drug screening use of phosphoinositolglycan-binding protein from plasma membrane of adipocytes
INVENTOR(S): Mueller, Guenter; Frick, Wendelin; Schneider, Rudolf; Petry, Stefan; Urmann, Matthias
PATENT ASSIGNEE(S): Aventis Pharma Deutschland G.m.b.H., Germany
SOURCE: Eur. Pat. Appl., 41 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1378517	A1	20040107	EP 2002-15047	20020705
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CA 2490572	A1	20040115	CA 2003-2490572	20030626
WO 2004005337	A1	20040115	WO 2003-EP6725	20030626
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003246590	A1	20040123	AU 2003-246590	20030626
EP 1521773	A1	20050413	EP 2003-762515	20030626
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003012417	A	20050426	BR 2003-12417	20030626
CN 1665836	A	20050907	CN 2003-815992	20030626

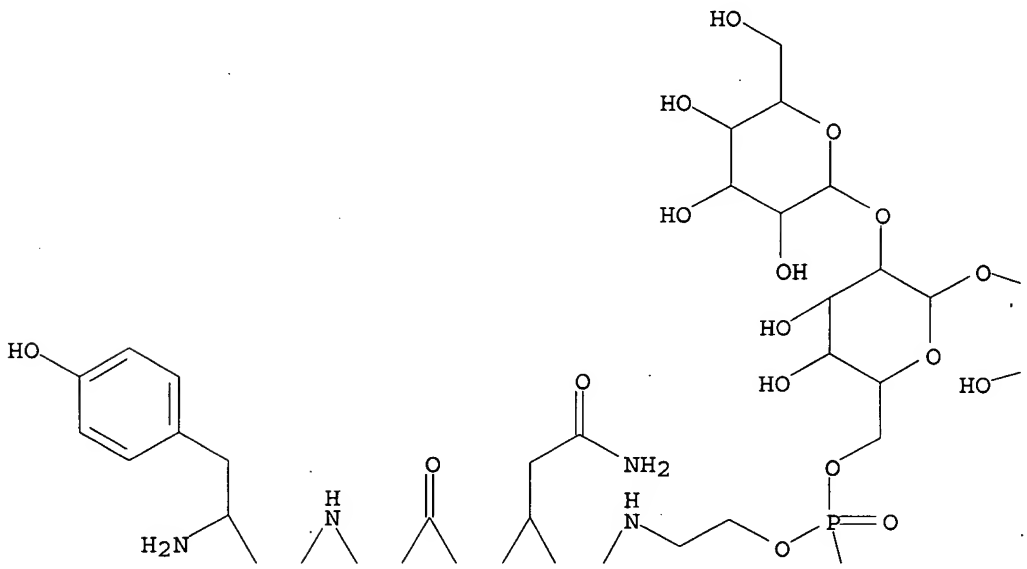
JP 2006514916	T	20060518	JP 2004-518576		20030626
CN 1817903	A	20060816	CN 2006-10057471		20030626
US 2004229278	A1	20041118	US 2003-470606		20030703
US 7049416	B2	20060523			
ZA 2004009815	A	20060726	ZA 2004-9815		20041203
IN 2004CN03034	A	20060217	IN 2004-CN3034		20041231
MX 2005PA00048	A	20050408	MX 2005-PA48		20050103
NO 2005000639	A	20050401	NO 2005-639		20050204
US 2006160142	A1	20060720	US 2006-377531		20060316
PRIORITY APPLN. INFO.:			EP 2002-15047	A	20020705
			CN 2003-815992	A3	20030626
			WO 2003-EP6725	W	20030626
			US 2003-470606	A3	20030703

AB The invention refers to a protein from plasma membrane of adipocytes. The protein has specific binding affinity to phosphoinositolglycans. Preparation of phosphoinositolglycans and phosphoinositolglycan-peptides and their binding to the phosphoinositolglycan-binding protein is disclosed. The phosphoinositolglycan-binding protein regulates glucose uptake by circumventing the insulin signaling cascade. The phosphoinositolglycan-binding protein can be used for drug screening and for preparation of medicaments.

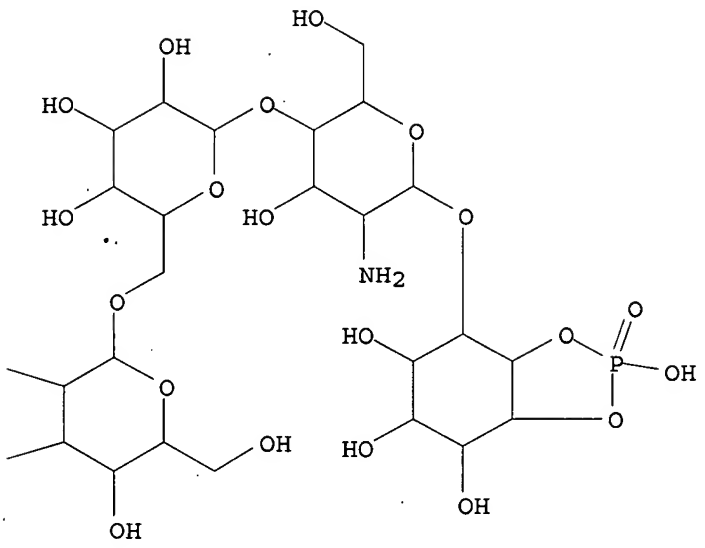
IT 193621-91-9P 640279-28-3P 640279-29-4P
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(PBP ligand; characterization and drug screening use of phosphoinositolglycan-binding protein (PBP) from plasma membrane of adipocytes)

RN 193621-91-9 CAPLUS

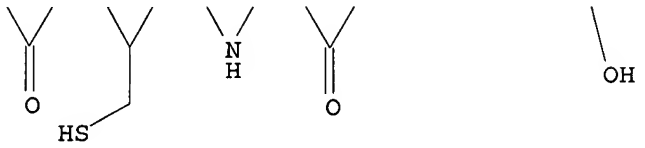
CN myo-Inositol, O-α-D-mannopyranosyl-(1→2)-O-6-O-[hydroxy[2-[(L-tyrosyl-L-cysteinyl-L-asparaginyl)amino]ethoxy]phosphinyl]-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-α-D-mannopyranosyl-(1→4)-O-2-amino-2-deoxy-α-D-glucopyranosyl-(1→4)-, cyclic 2,3-(hydrogen phosphate) (9CI) (CA INDEX NAME)



PAGE 1-B



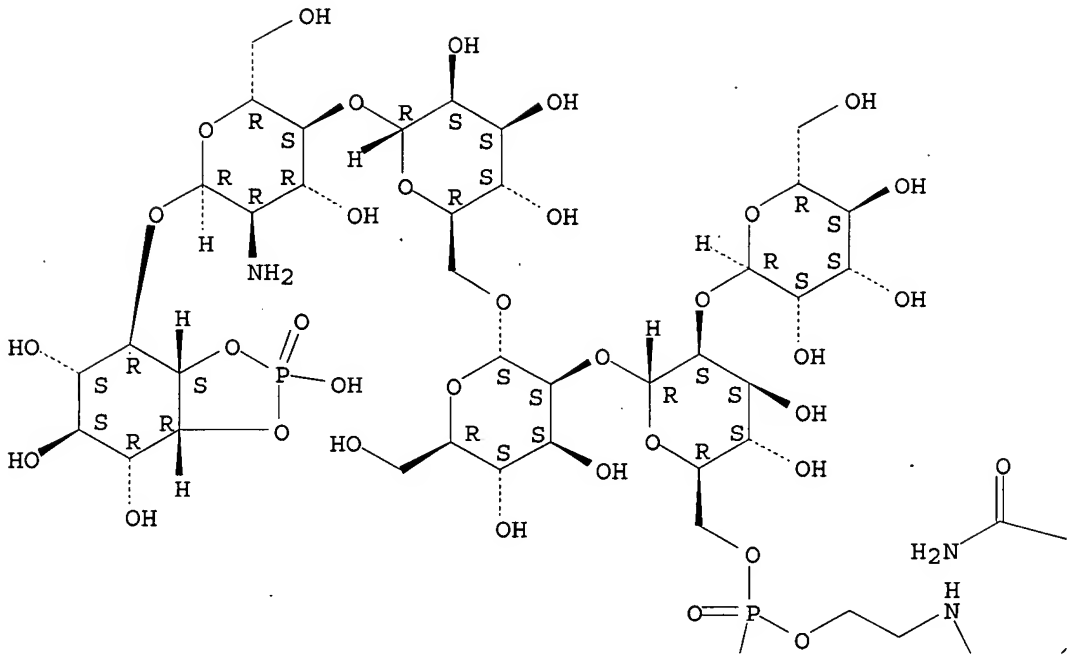
PAGE 2-A



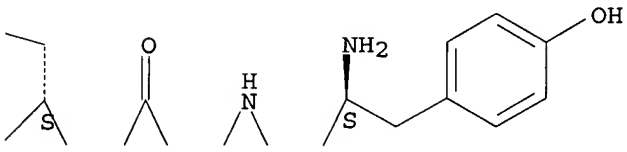
RN 640279-28-3 CAPLUS
CN D-myo-Inositol, O-α-D-mannopyranosyl-(1→2)-O-6-O-[hydroxy[2-[(L-tyrosyl-L-methionyl-L-asparaginyl)amino]ethoxy]phosphinyl]-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-α-D-mannopyranosyl-(1→4)-O-2-amino-2-deoxy-α-D-glucopyranosyl-(1→6)-, cyclic 1,2-(hydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

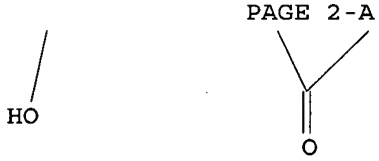
PAGE 1-A

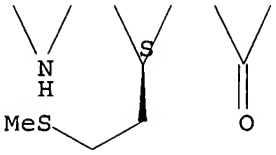


PAGE 1-B



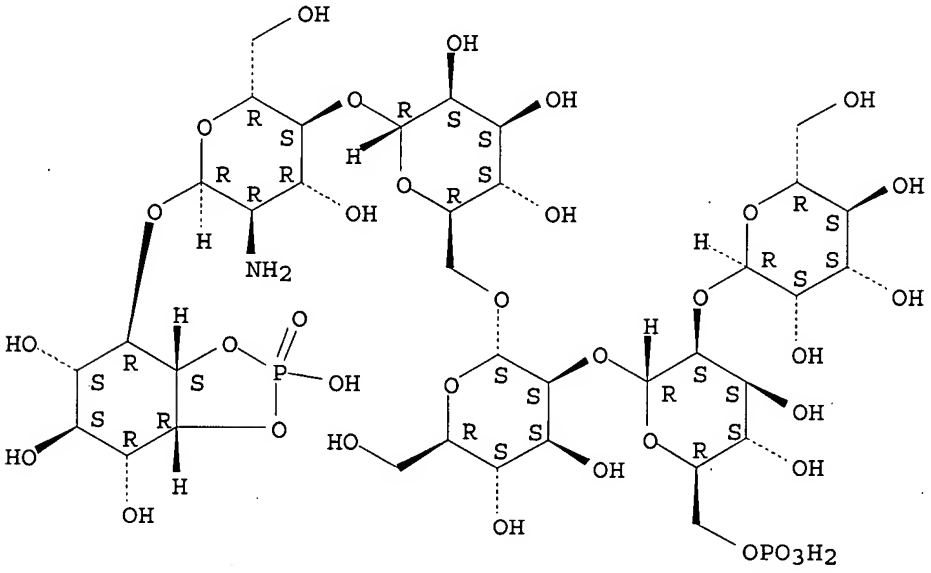
PAGE 2-A





RN 640279-29-4 CAPLUS
CN D-myo-Inositol, O-α-D-mannopyranosyl-(1→2)-O-6-O-phosphono-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-α-D-mannopyranosyl-(1→4)-O-2-amino-2-deoxy-α-D-glucopyranosyl-(1→6)-, cyclic 1,2-(hydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:379144 CAPLUS
DOCUMENT NUMBER: 129:54536
TITLE: Synthesis of inositolglycan with insulin-like effect
INVENTOR(S): Frick, Wendelin; Mueller, Guenter
PATENT ASSIGNEE(S): Hoechst A.-G., Germany
SOURCE: Ger. Offen., 20 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19649350	A1	19980604	DE 1996-19649350	19961128
IN 1997MA02394	A	20050304	IN 1997-MA2394	19971023
EP 845475	A1	19980603	EP 1997-119835	19971113
EP 845475	B1	20050309		

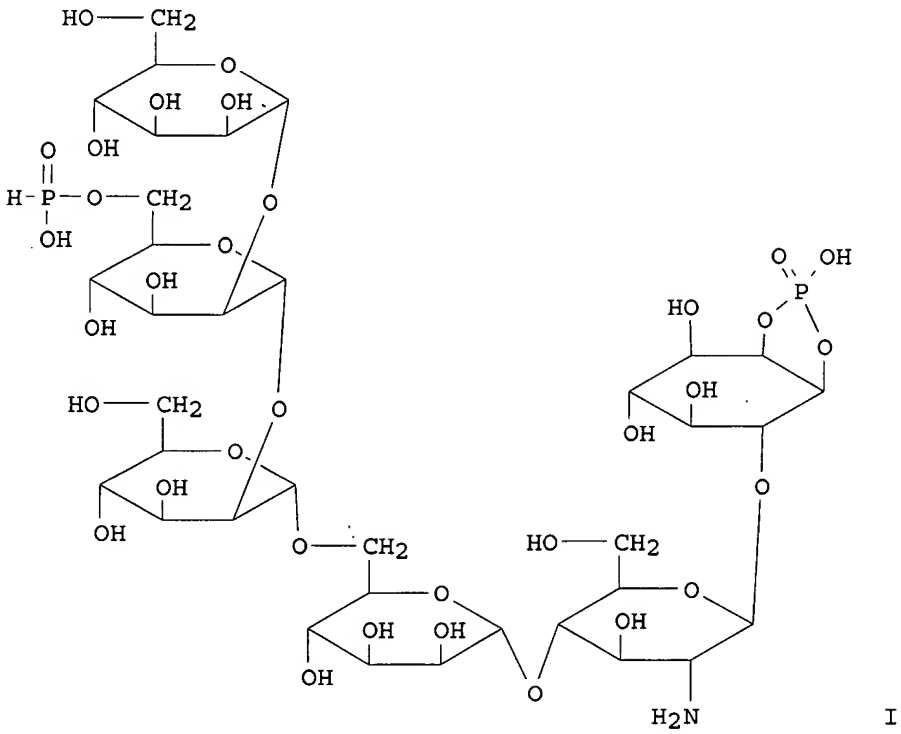
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

AT 290541	T	20050315	AT 1997-119835		19971113
PT 845475	T	20050630	PT 1997-119835		19971113
ES 2237784	T3	20050801	ES 1997-119835		19971113
CA 2222103	A1	19980528	CA 1997-2222103		19971125
CA 2222103	C	20070828			
AU 9745382	A	19980604	AU 1997-45382		19971126
AU 728637	B2	20010111			
CN 1184112	A	19980610	CN 1997-122958		19971126
CN 1136223	B	20040128			
HU 9702242	A2	19981228	HU 1997-2242		19971126
US 6004938	A	19991221	US 1997-979865		19971126
JP 10158291	A	19980616	JP 1997-325508		19971127
BR 9706041	A	19991123	BR 1997-6041		19971127
RU 2178794	C2	20020127	RU 1997-120547		19971127
CZ 294886	B6	20050413	CZ 1997-3775		19971127
PL 188604	B1	20050331	PL 1997-323407		19971128
HK 1008786	A1	20040813	HK 1998-109588		19980731

PRIORITY APPLN. INFO.: DE 1996-19649350 A 19961128

OTHER SOURCE(S): MARPAT 129:54536

GI



I

AB Title compds. of formula A-Z-R [A =(substituted) phosphate, thiophosphate, phosphite, thio-phosphite, sulfate, carbamate, amine, ureido, sulfonamido, sulfo, sulfonyl; or sulfhydryl; Z = 2-6 (substituted) sugar residues; R = (substituted) myo-inositol], useful in the treatment of diabetes mellitus or non-insulin-dependent diabetes, were prepared and tested. Thus (I) was synthesized in 10 steps from 2,3,4-tri-O-benzyl-6-O-acetyl-α-D mannopyranoside trichloroacetimidate, tert-butyldimethylsilyl 2-deoxy-2-azido-3,6-O-benzyl-β-D-glucopyranoside, and 1,2-O-cyclohexylidene-3,4,5-tris-O-benzyl-D-myo-

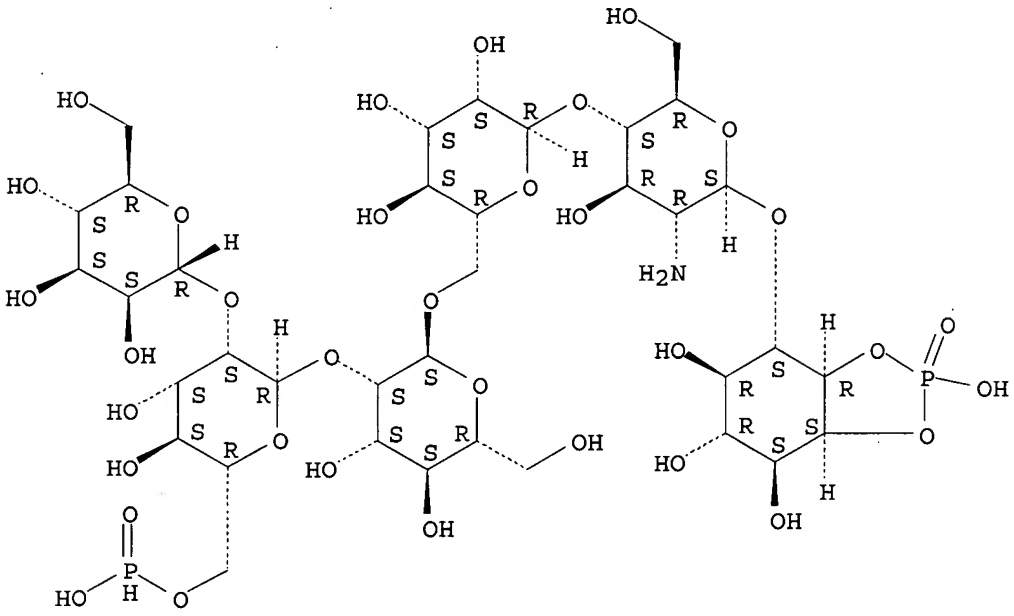
inositol. In in-vitro tests with rat fat-cells, I had lipogenesis activity of 77% of insulin maximal effect at EC50 8.2 μM; it glucose transport activity was 41% of insulin maximal effect at 8.1 μM.

IT 208524-65-6P 208524-66-7P 208524-67-8P
208524-69-0P 208524-70-3P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis of inositolglycan with insulin-like effect)

RN 208524-65-6 CAPLUS

CN D-myo-Inositol, O-α-D-mannopyranosyl-(1→2)-O-6-O-(hydroxyphosphinyl)-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-α-D-mannopyranosyl-(1→4)-O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→4)-, cyclic 2,3-(hydrogen phosphate) (9CI) (CA INDEX NAME)

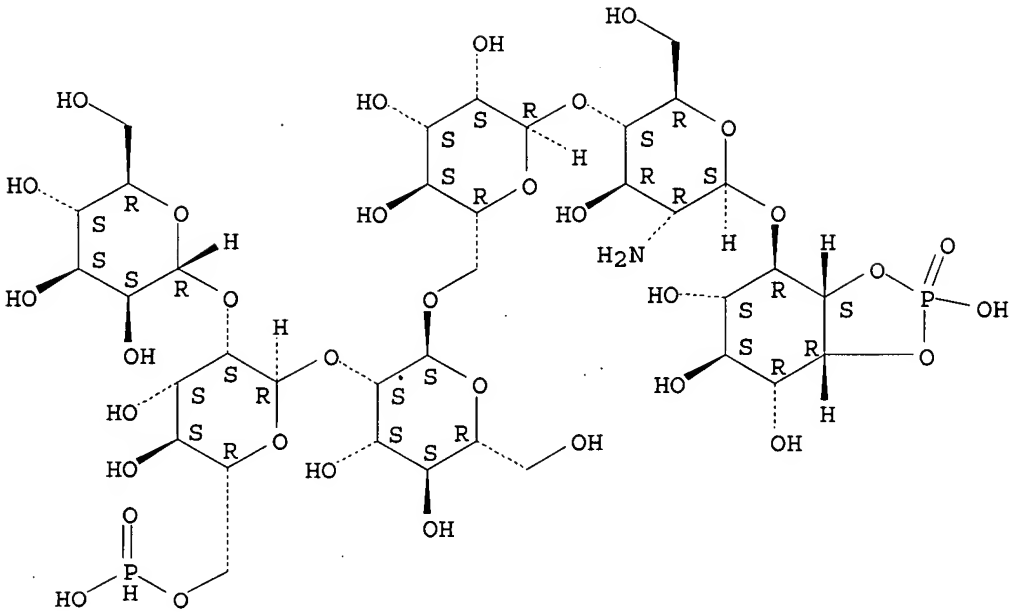
Absolute stereochemistry.



RN 208524-66-7 CAPLUS

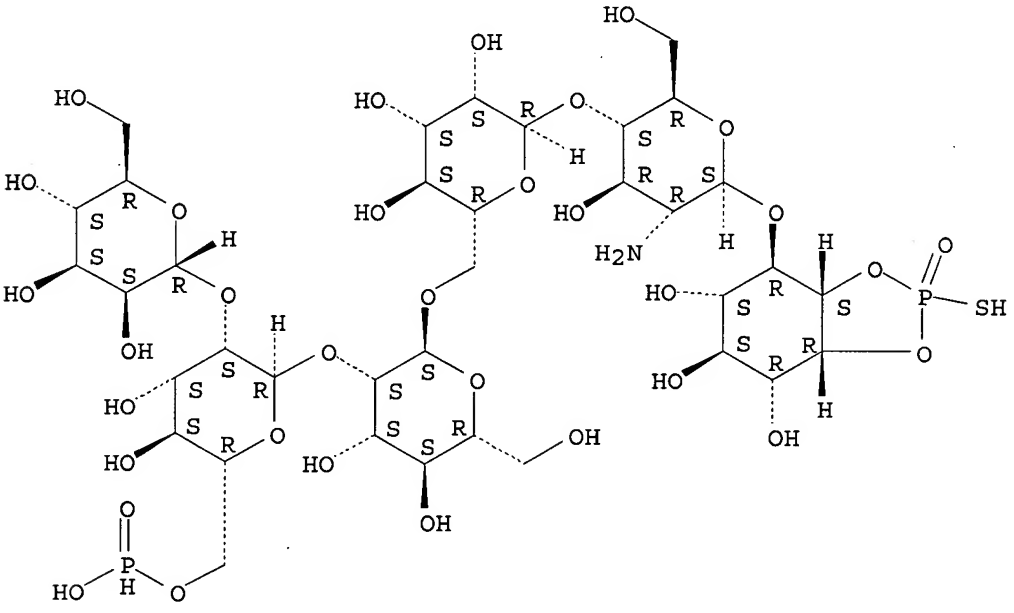
CN D-myo-Inositol, O-α-D-mannopyranosyl-(1→2)-O-6-O-(hydroxyphosphinyl)-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-α-D-mannopyranosyl-(1→4)-O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→6)-, cyclic 1,2-(hydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 208524-67-8 CAPLUS
CN D-myo-Inositol, O-α-D-mannopyranosyl-(1→2)-O-6-O-(hydroxyphosphinyl)-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-α-D-mannopyranosyl-(1→4)-O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→6)-, cyclic 1,2-(hydrogen phosphorothioate) (9CI) (CA INDEX NAME)

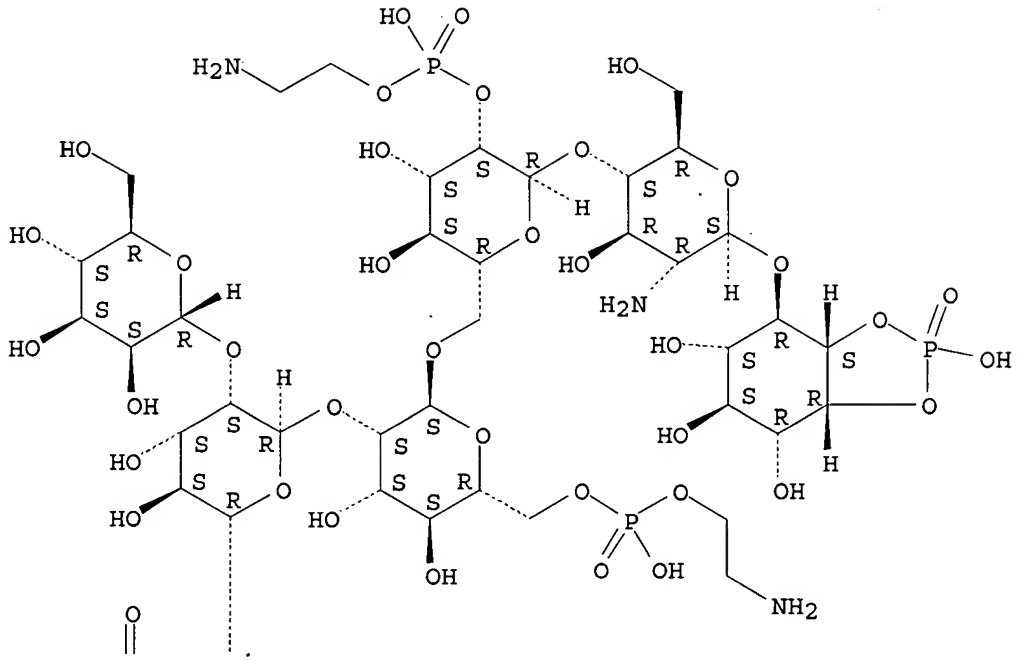
Absolute stereochemistry.



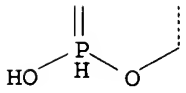
RN 208524-69-0 CAPLUS
CN D-myo-Inositol, O-α-D-mannopyranosyl-(1→2)-O-6-O-(hydroxyphosphinyl)-α-D-mannopyranosyl-(1→2)-O-6-O-[(2-aminoethoxy)hydroxyphosphinyl]-α-D-mannopyranosyl-(1→6)-O-2-O-[(2-aminoethoxy)hydroxyphosphinyl]-α-D-mannopyranosyl-(1→4)-O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→6)-, cyclic 1,2-(hydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

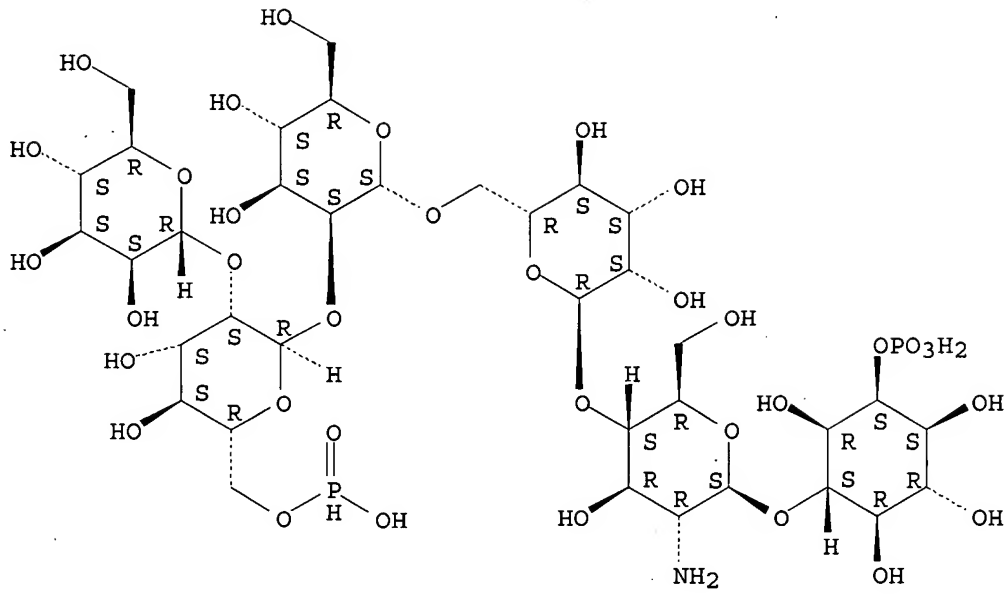


PAGE 2-A



RN 208524-70-3 CAPLUS
CN D-myo-Inositol, O-α-D-mannopyranosyl-(1→2)-O-6-O-(hydroxyphosphinyl)-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-α-D-mannopyranosyl-(1→4)-O-2-amino-2-deoxy-β-D-glucopyranosyl-(1→4)-, 2-(dihydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

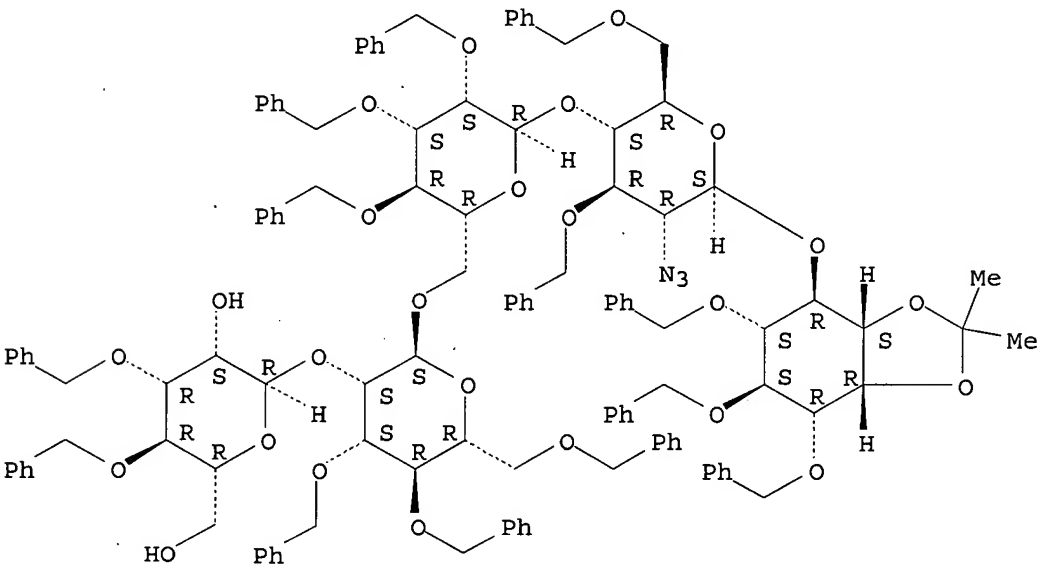


IT 208524-80-5P 208524-81-6P 208524-82-7P
208524-83-8P 208524-84-9P 208524-85-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of inositolglycan with insulin-like effect)

RN 208524-80-5 CAPLUS

CN D-myo-Inositol, O-3,4-bis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-β-D-glucopyranosyl-(1→6)-1,2-O-(1-methylethylidene)-3,4,5-tris-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



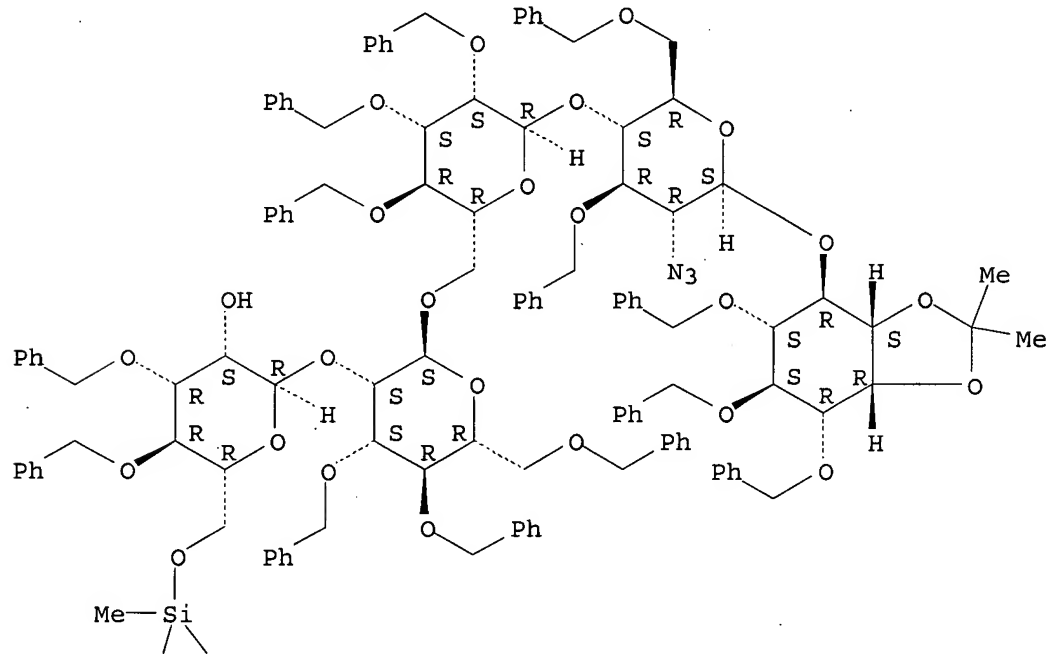
RN 208524-81-6 CAPLUS

CN D-myo-Inositol, O-6-O-[(1,1-dimethylethyl)dimethylsilyl]-3,4-bis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-

(phenylmethyl)-α-D-mannopyranosyl-(1→4)-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-β-D-glucopyranosyl-(1→6)-1,2-O-(1-methylethylidene)-3,4,5-tris-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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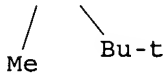
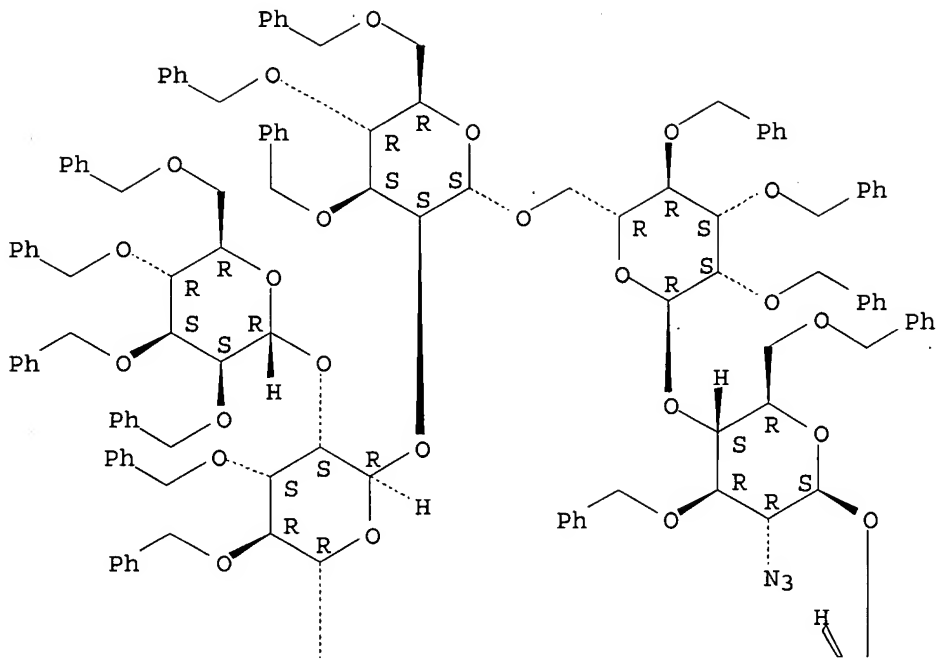


RN 208524-82-7 CAPLUS

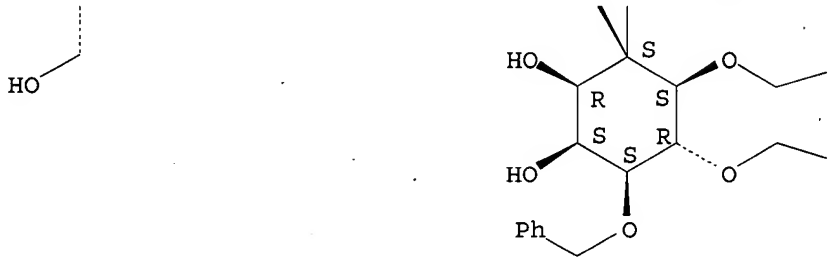
CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4-bis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-β-D-glucopyranosyl-(1→6)-3,4,5-tris-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



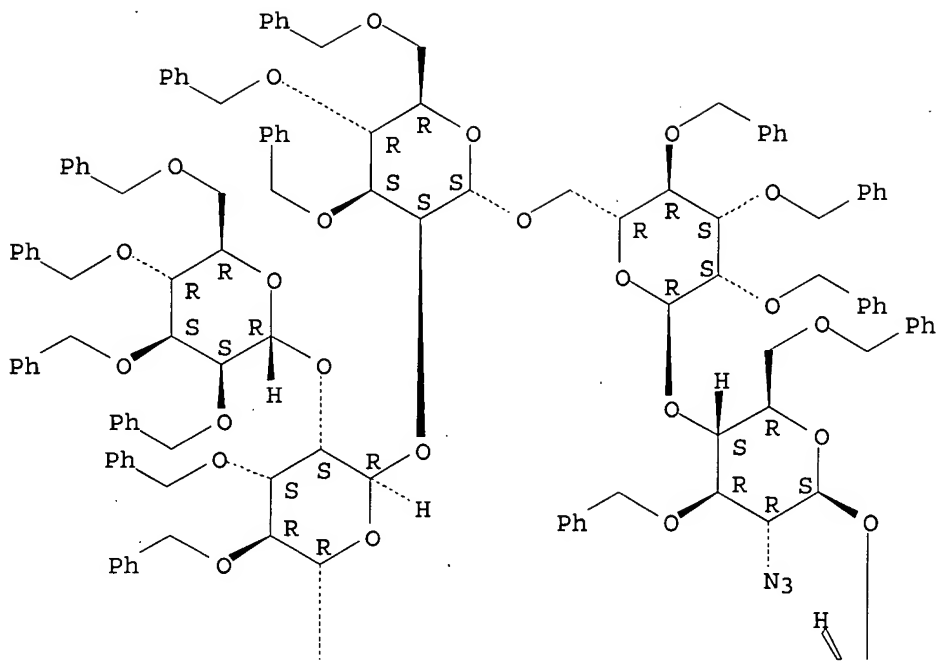
PAGE 2-B

RN 208524-83-8 CAPLUS

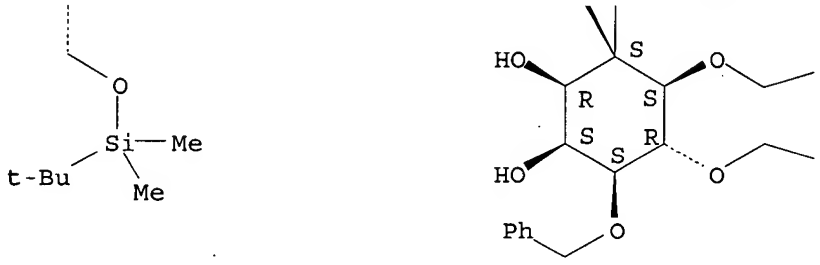
CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-6-O-[(1,1-dimethylethyl)dimethylsilyl]-3,4-bis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-β-D-glucopyranosyl-(1→6)-3,4,5-tris-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



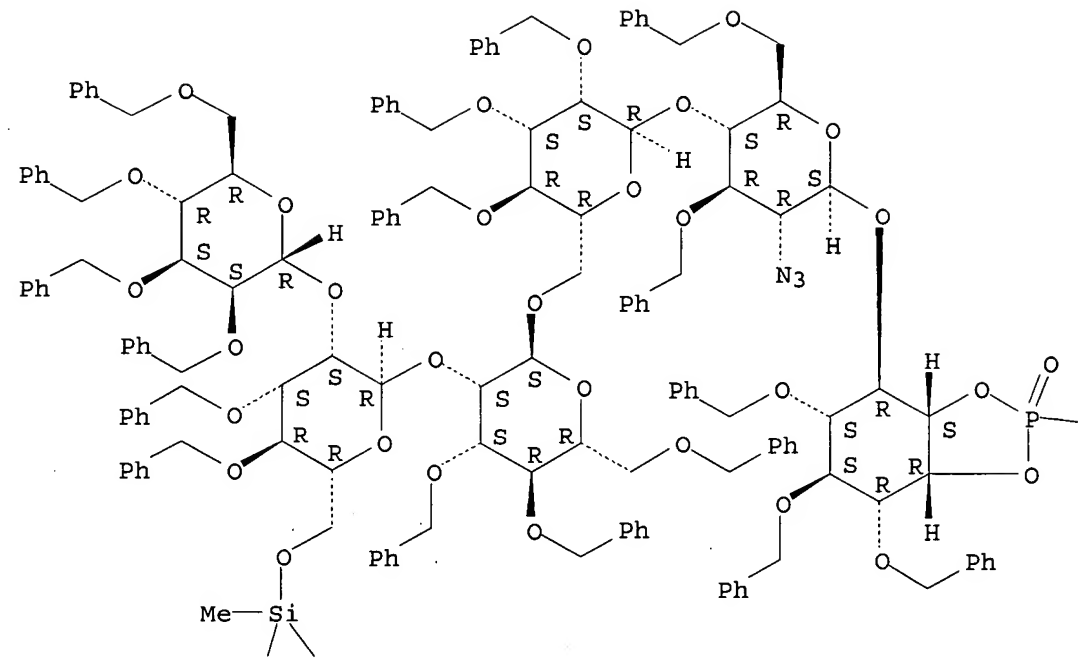
PAGE 2-B

RN 208524-84-9 CAPLUS

CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-6-O-[(1,1-dimethylethyl)dimethylsilyl]-3,4-bis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-β-D-glucopyranosyl-(1→6)-3,4,5-tris-O-(phenylmethyl)-, cyclic 1,2-(hydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

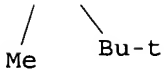
PAGE 1-A



PAGE 1-B

—OH

PAGE 2-A

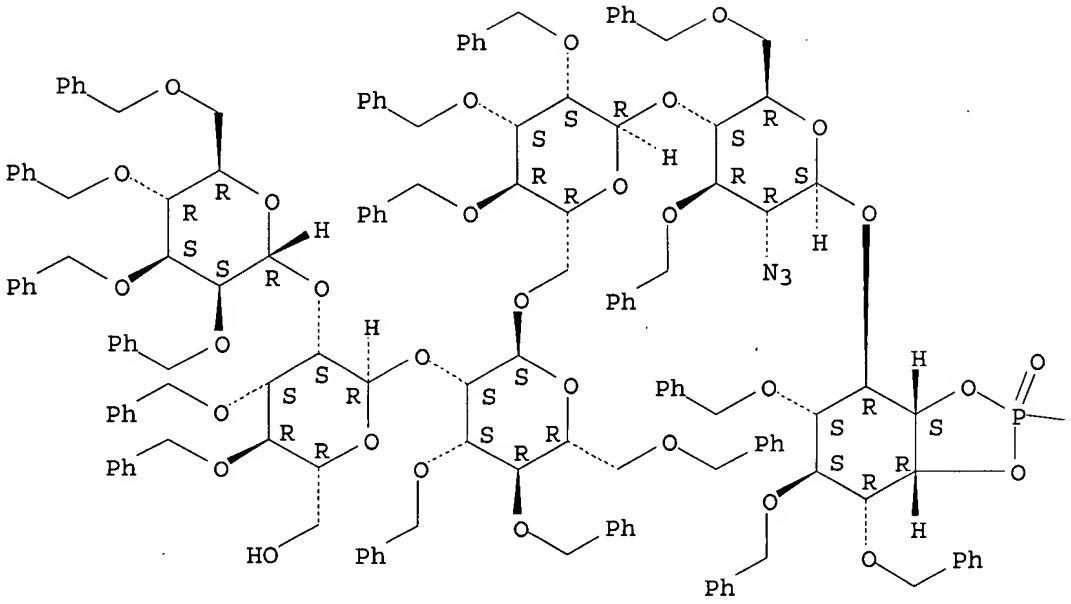


RN 208524-85-0 CAPLUS

CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4-bis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-β-D-glucopyranosyl-(1→6)-3,4,5-tris-O-(phenylmethyl)-, cyclic 1,2-(hydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

—OH

L8 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:773515 CAPLUS
DOCUMENT NUMBER: 128:87407
TITLE: Carbohydrate and peptide structure of the α- and β-subunits of human chorionic gonadotropin from normal and aberrant pregnancy and choriocarcinoma
AUTHOR(S): Elliott, Margatert M.; Kardana, Andrew; Lubstbader, Joyce W.; Cole, Laurence A.
CORPORATE SOURCE: Dep. Obstetrics, Yale Univ. Sch. Medicine, New Haven, CT, 06510, USA
SOURCE: Endocrine (1997), 7(1), 15-32
CODEN: EOCRE5; ISSN: 1355-008X
PUBLISHER: Humana Press Inc.

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Human chorionic gonadotropin (hCG), purified from the urine of 14 individuals with normal pregnancy, diabetic pregnancy, hydatidiform mole, or choriocarcinoma, plus two hCG standard prepns., was examined for concurrent peptide-sequence and asparagine (N)- and serine (O)-linked carbohydrate heterogeneity. Protein-sequence anal. was used to measure amino-terminal heterogeneity and the "nicking" of internal peptide bonds. The use of high-pH anion-exchange chromatog coupled with the increased sensitivity of pulsed amperometric detection (HPAE/PAD) revealed that distinct proportions of both hCG α- and β-subunits form normal and aberrant pregnancy are hyperglycolated, and that it is the extent of the specific subunit hyperglycosylation that significantly increases in malignant diseases. Peptide-bond nicking was restricted to a single linkage (β47-48) in normal and diabetic pregnancy, but occurred at two sites in standard prepns., at three sites in hydatidiform mole, and at three sites in choriocarcinoma β-subunit. In the carbohydrate moiety, α-subunit from normal pregnancy hCG contained non-fucosylated, mono-and biantennary N-linked structures (49.3 and 36.7%, means); fucosylated biantennary and triantennary oligosaccharides were also identified (7.3 and 6.9%). In choriocarcinoma α-subunit, the level of fucosylated biantennary increased, offset by a parallel decrease in the predominant biantennary structure of normal pregnancy. The β-subunit from normal pregnancy hCG contained fucosylated and nonfucosylated biantennary N-linked structures; however, mono- and triantennary oligosaccharides were also identified (4.6 and 13.7%). For O-linked glycans, in β-subunit from normal pregnancy, disaccharide-core structure predominated, whereas tetrasaccharide-core structure was also detected (15.6%). A trend was demonstrated in β-subunit: the proportions of the nonpredominating N- and O-linked oligosaccharides increased stepwise from normal pregnancy to hydatidiform mole to choriocarcinoma. The increases were: for monoantennary oligosaccharide, 4.6 to 6.8 to 11.2%; for triantennary, 13.7 to 26.7 to 51.5% and, for O-linked tetrasaccharide-core structure, 15.6 to 23.0 to 74.8%. For hCG from individual diabetic pregnancy, the principal N-linked structure (34.7%) was consistent with a biantennary oligosaccharide previously reported only in carcinoma; and sialylation of both N- and O-linked antennae was significantly decreased compared to that of normal pregnancy. Taken collectively, the distinctive patterns of subunit-specific, predominant oligosaccharides appear to reflect the steric effect of local protein structure during glycosylation processes. The evidence of alternative or "hyperbranched: glycoforms on both α- and β-subunits, seen at low levels in normal pregnancy and at increased or even predominant levels in malignant disease, suggests alternative substrate accessibility for Golgi processing enzymes, α1,6-fucosyltransferase and N-acetylglycosaminyltransferase IV, in distinct proportions of subunit mols.

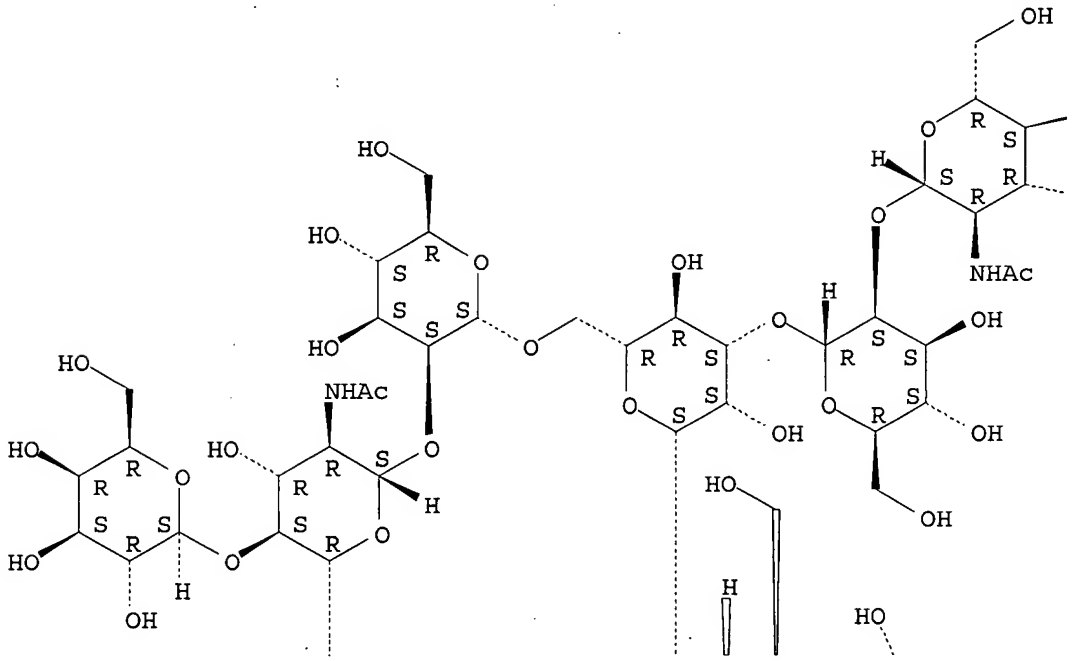
IT 71496-53-2 78392-81-1 82867-73-0
84813-89-8
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(carbohydrate and peptide structure of urinary α- and β-subunits of human chorionic gonadotropin from normal and aberrant human pregnancy and choriocarcinoma)

RN 71496-53-2 CAPLUS

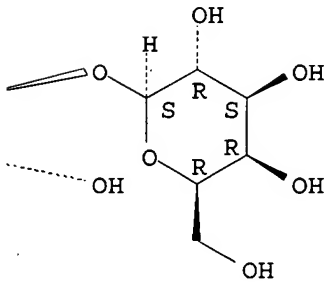
CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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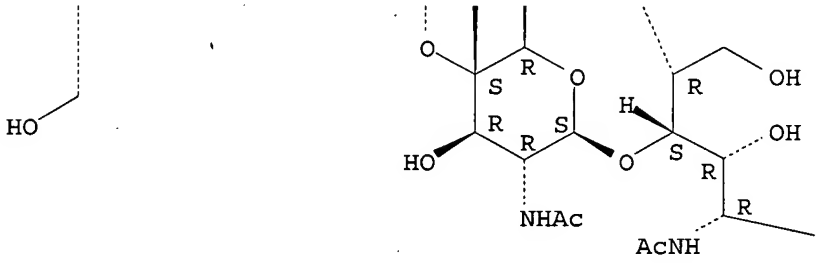
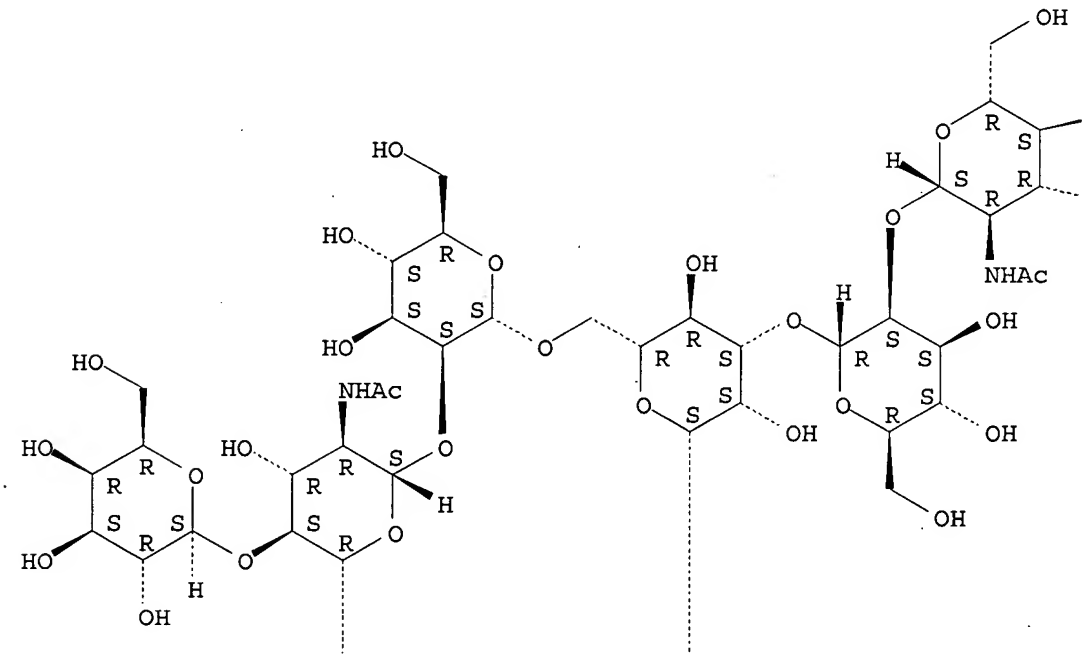
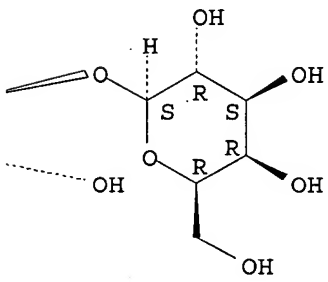


—CHO

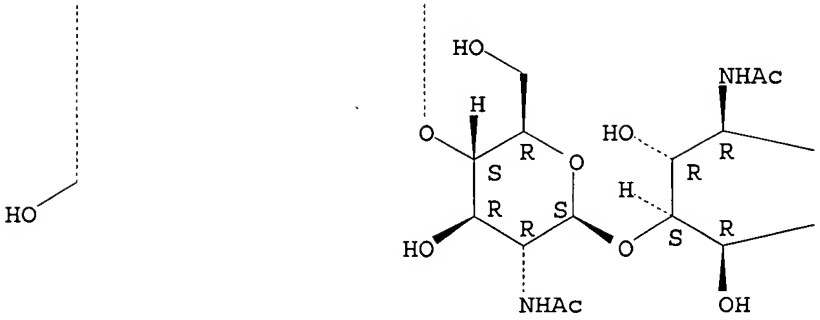
RN 78392-81-1 CAPLUS
CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→3)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-[6-deoxy-α-L-galactopyranosyl-(1→6)]-2-(acetylamino)-2-deoxy- (CA INDEX NAME)

Absolute stereochemistry.

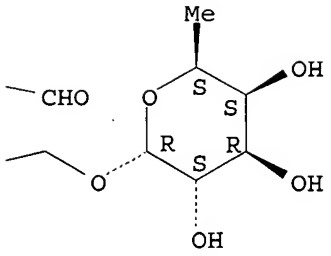




PAGE 2-A



PAGE 2-B

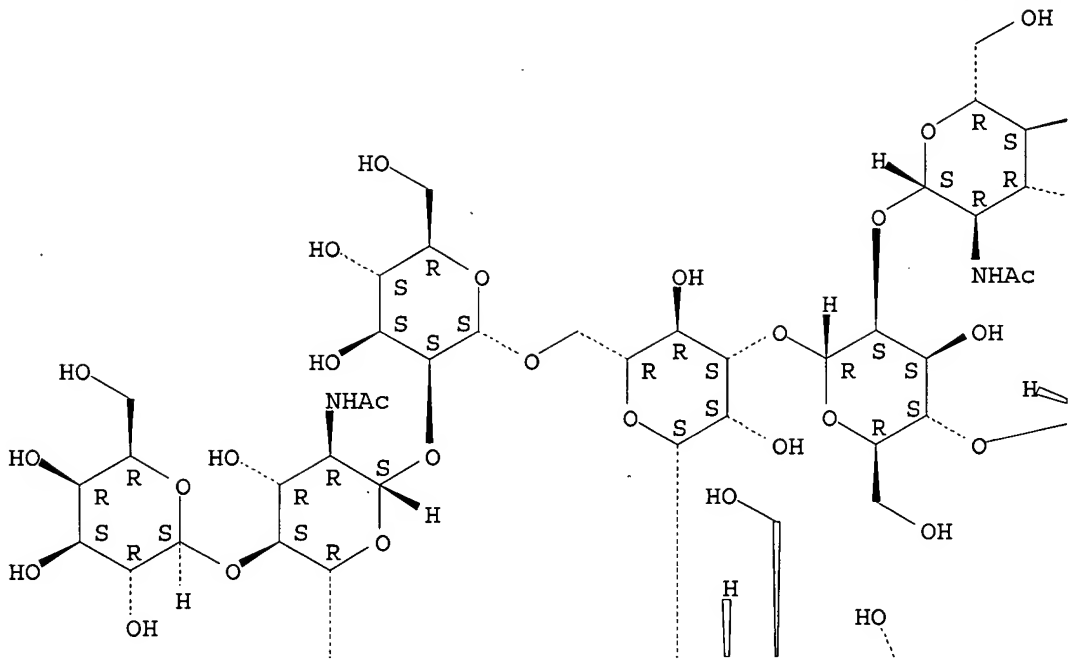


RN 82867-73-0 CAPLUS

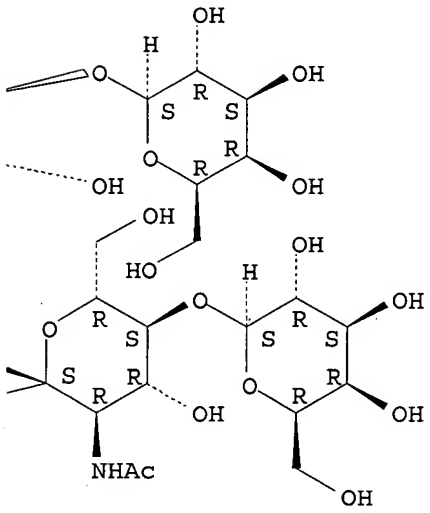
CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



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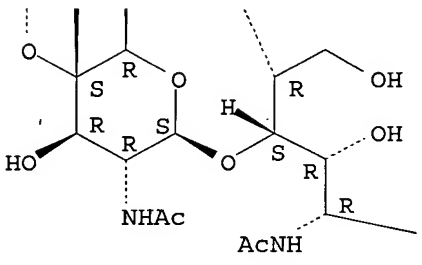
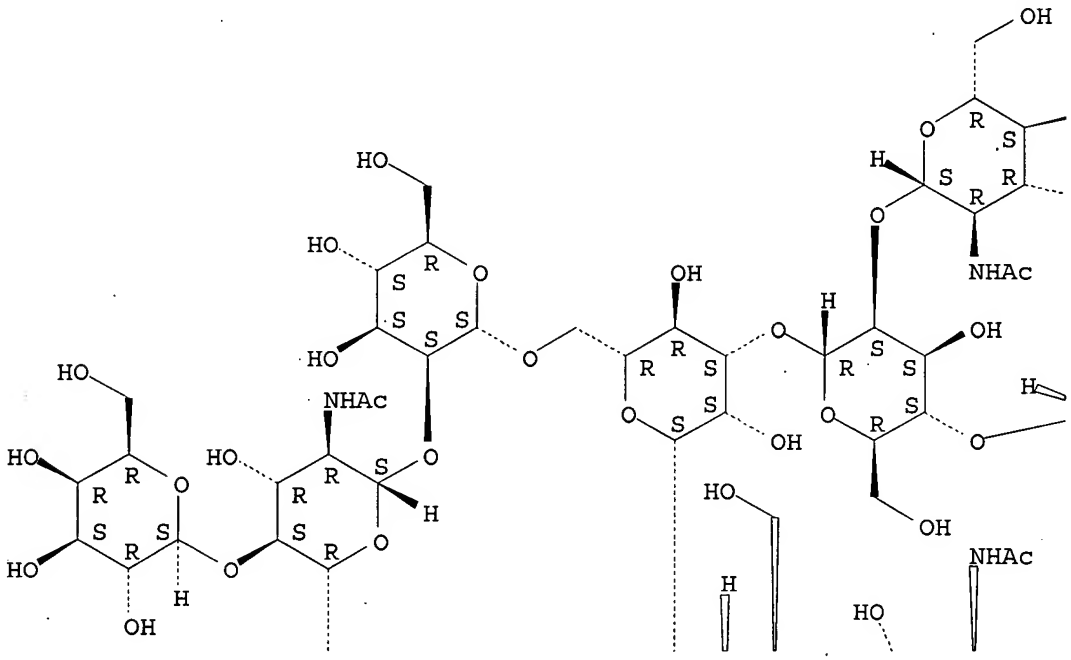


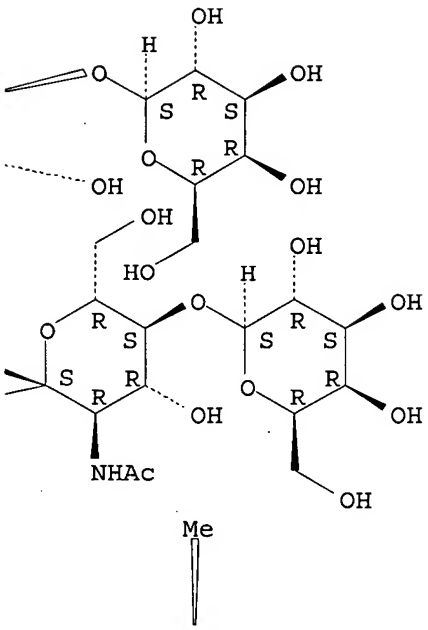
— CHO

RN 84813-89-8 CAPLUS
CN D-Glucose, O-6-deoxy-α-L-galactopyranosyl-(1→6)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-O-[O-β-D-galactopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-O-α-D-mannopyranosyl-(1→3)-O-[O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→2)-α-D-mannopyranosyl-(1→6)]-O-β-D-mannopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)]-2-(acetylamino)-2-deoxy- (9CI) (CA INDEX NAME)

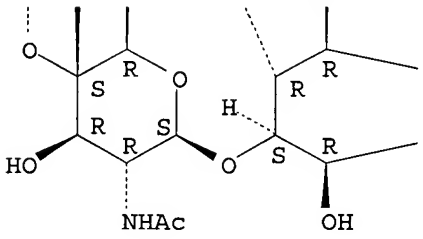
Absolute stereochemistry.



PAGE 1-B



PAGE 2-A



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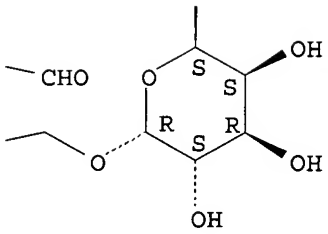


REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:662332 CAPLUS
DOCUMENT NUMBER: 123:83943
TITLE: Preparation of physiologically active inositol glycans
INVENTOR(S): Muragata, Tsutomu; Kaneko, Masami; Saito, Yutaka; Saito, Hiromitsu; Suzuki, Susumu; Ogawa, Tomoya
PATENT ASSIGNEE(S): Kyowa Hakko Kogyo Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.

CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06293790	A	19941021	JP 1993-81955	19930408

PRIORITY APPLN. INFO.: JP 1993-81955 19930408
OTHER SOURCE(S): MARPAT 123:83943
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. [I; R1 = P(O)(OH)2 and R2 = H or R1R2 = P(O)OH; R3, R4, R5, R6 = H, OH; R7 = H, P(O)(OH)2, Q; wherein R8 = H, OH, Q1; R9 = H, OH, Q2; R10, R11 = H, OH; R12, R13, R14 = H, P(O)(OH)2], having insulin-like activity and useful for the treatment of diabetes, are prepared Thus, inositol-containing oligosaccharide (II), prepared by stepwise glycosidation of protected monosaccharide derivs., in vitro promoted the biosynthesis of glycogen and fat in rat isolated fat cells by 94% at 10-9 M and 92% at 10-8 M, resp., compared to insulin (100%) at 10-9 M.

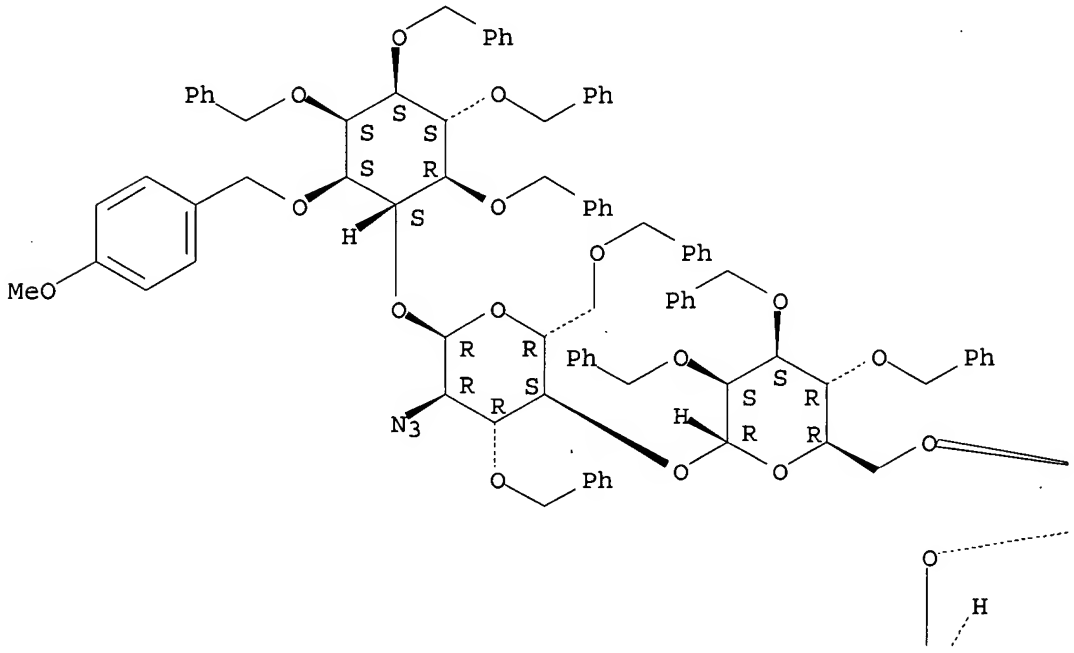
IT 164649-02-9P 164649-03-0P 164649-04-1P
164649-05-2P 164649-06-3P 164649-07-4P
164649-08-5P 164649-09-6P 164649-10-9P
164649-17-6P 164649-18-7P 164649-19-8P
164904-95-4P 164904-96-5P 164904-97-6P
164905-09-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate for preparation of preparation of inositol glycans with insulin-like activity for treatment of diabetes)

RN 164649-02-9 CAPLUS

CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-3-O-[(4-methoxyphenyl)methyl]-1,2,5,6-tetrakis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

PAGE 1-A



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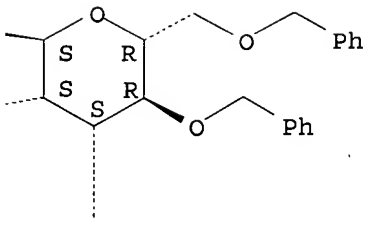

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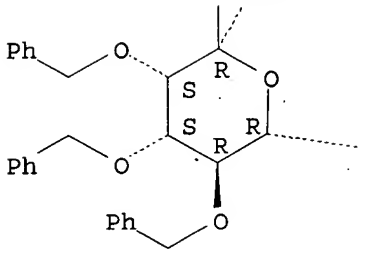

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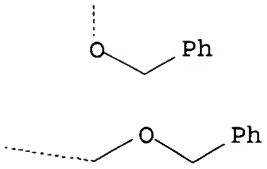
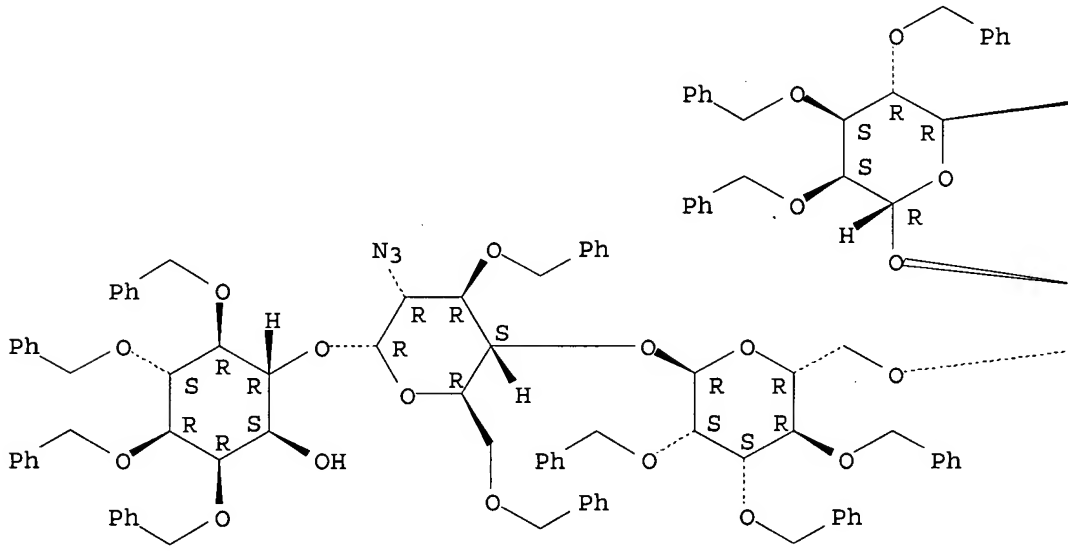


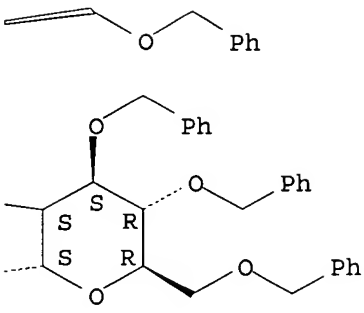
RN 164649-03-0 CAPLUS

CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-1,2,5,6-tetrakis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

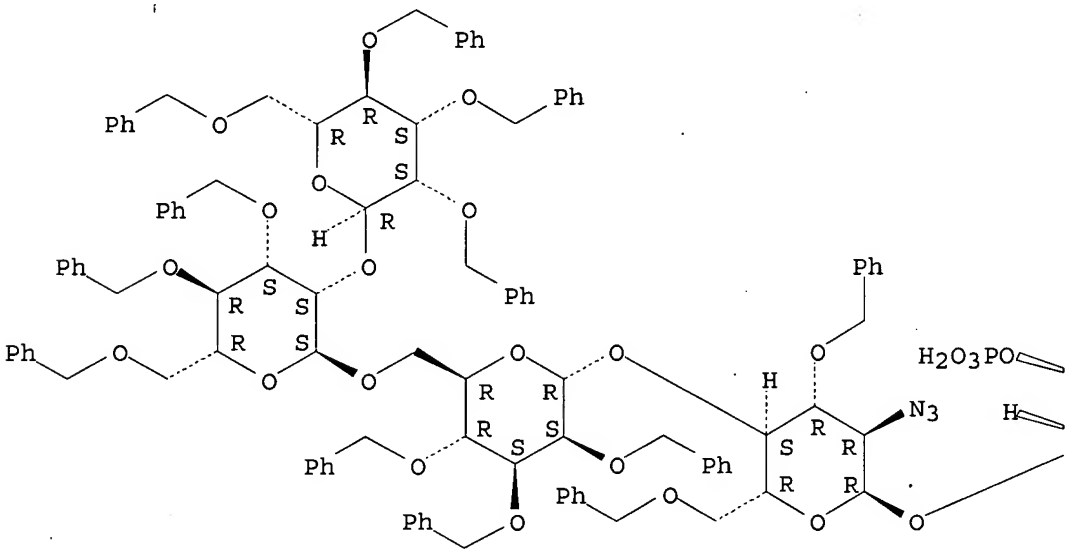
PAGE 1-A

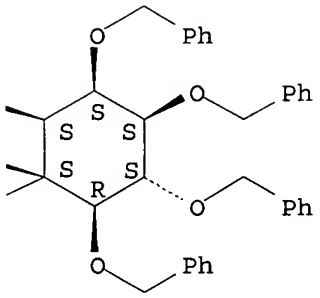




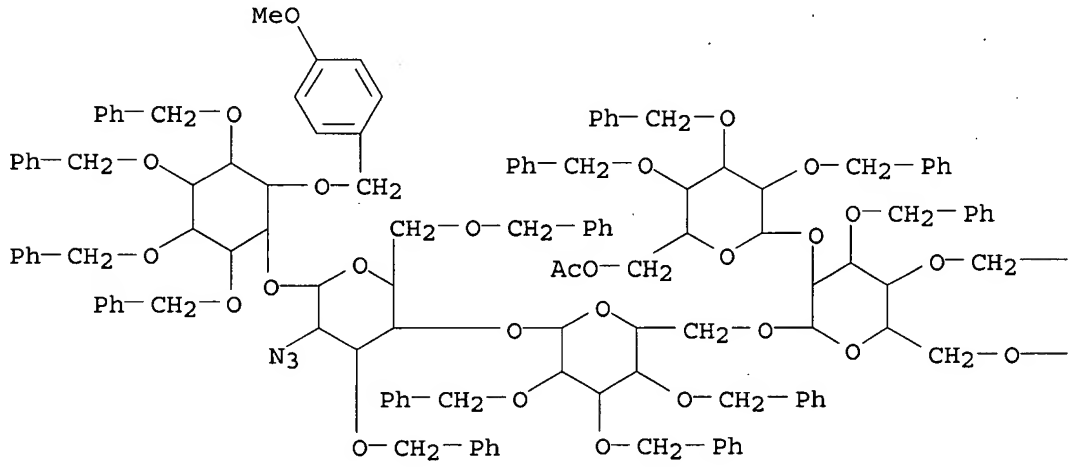
RN 164649-04-1 CAPLUS
CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-1,2,5,6-tetrakis-O-(phenylmethyl)-, 3-(dihydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).





RN 164649-05-2 CAPLUS
CN D-myo-Inositol, O-6-O-acetyl-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-3-O-[(4-methoxyphenyl)methyl]-1,2,5,6-tetrakis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

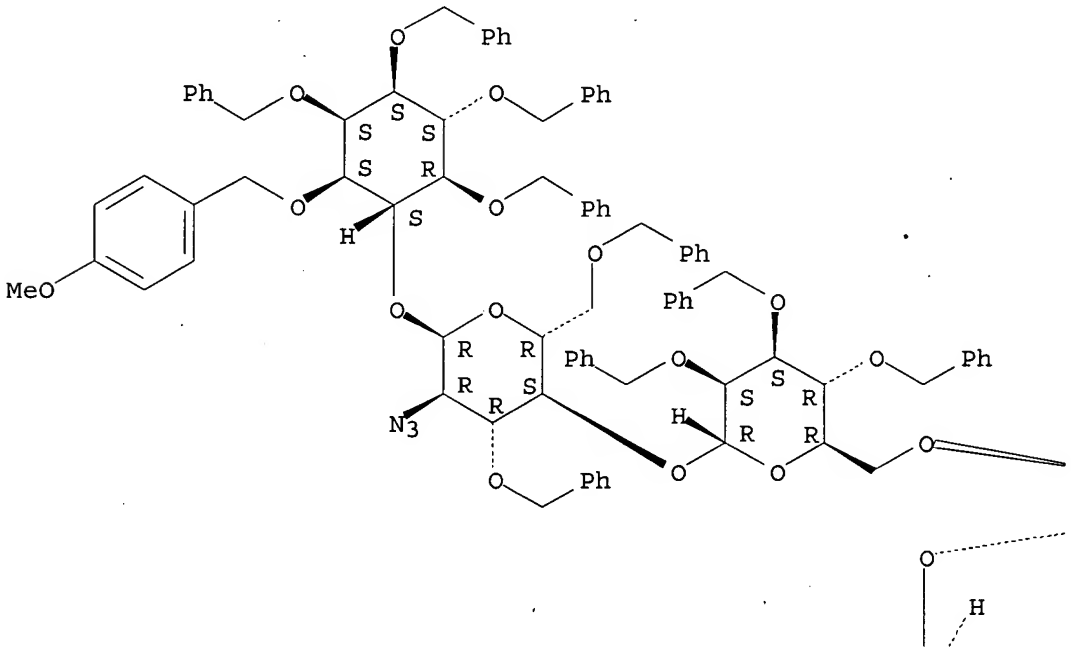


— Ph

— CH_2 — Ph

RN 164649-06-3 CAPLUS
CN D-myo-Inositol, O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-3-O-[(4-methoxyphenyl)methyl]-1,2,5,6-tetrakis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



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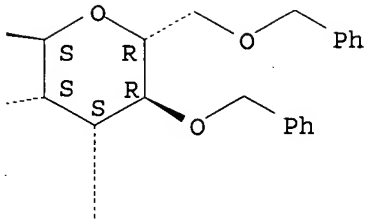

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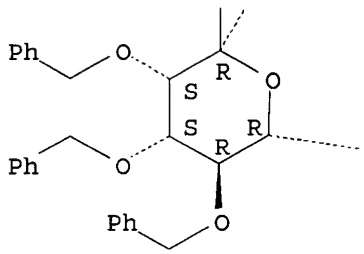

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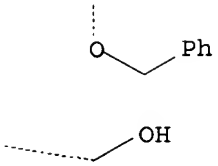

RN 164649-07-4 CAPLUS

CN D-myo-Inositol, O-6-O-[(2-cyanoethoxy)(phenylmethoxy)phosphinyl]-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-3-O-[(4-methoxyphenyl)methyl]-1,2,5,6-tetrakis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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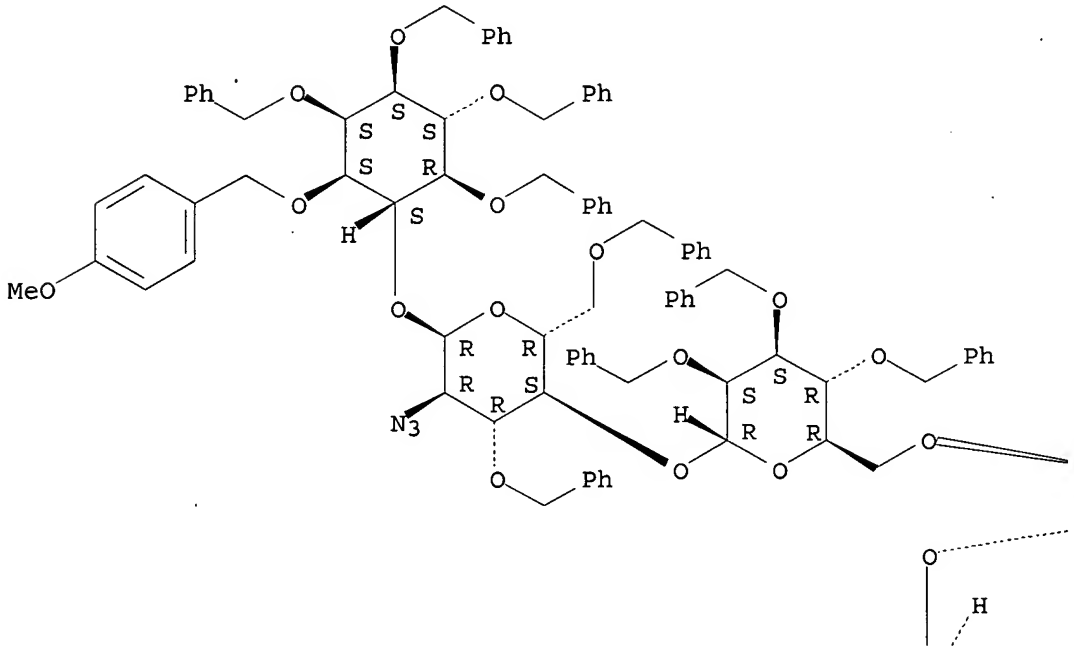

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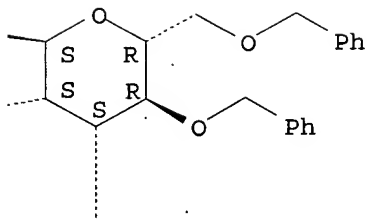

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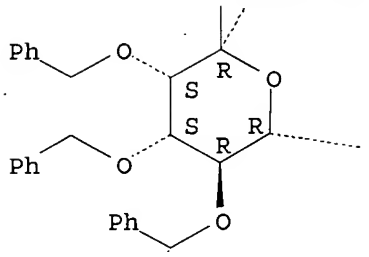

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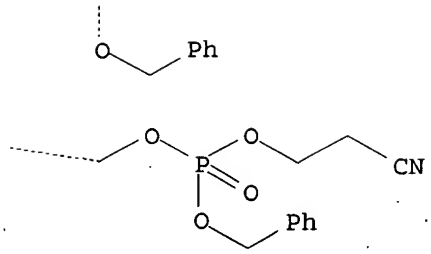

RN 164649-08-5 CAPLUS

CN D-myo-Inositol, O-6-O-[(2-cyanoethoxy)(phenylmethoxy)phosphinyl]-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-1,2,5,6-tetrakis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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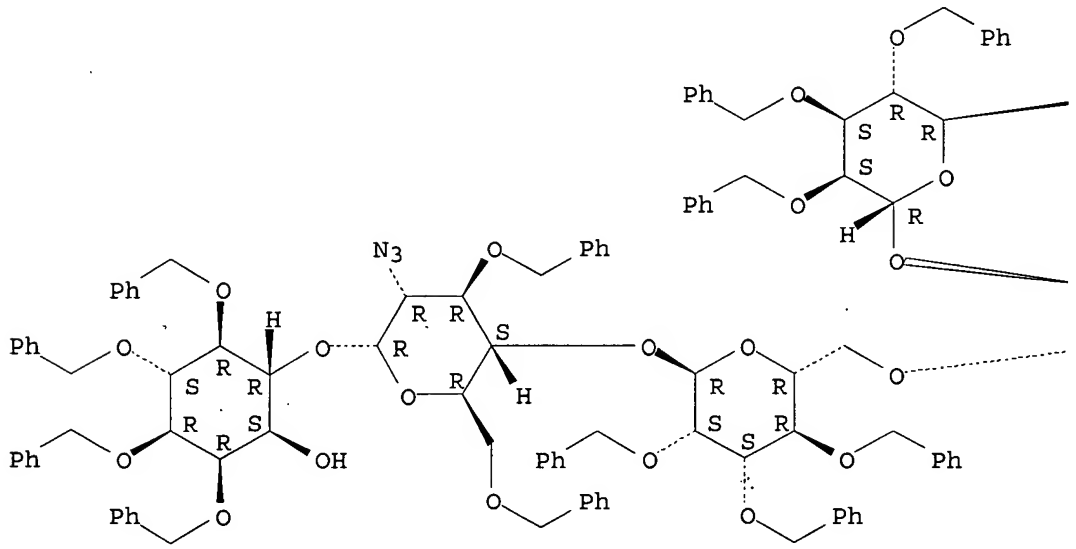
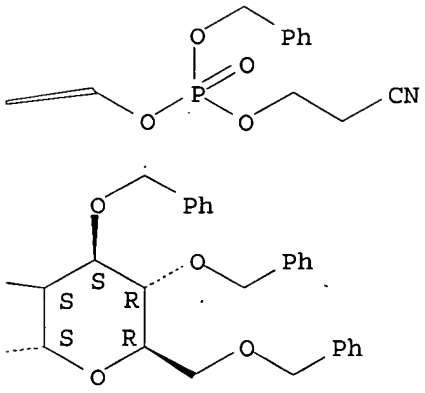
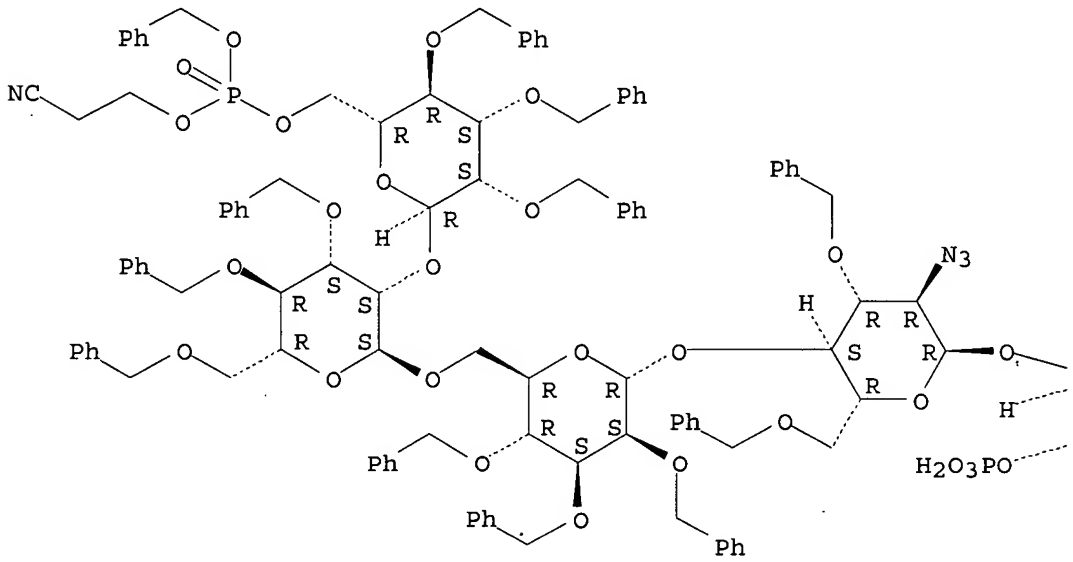
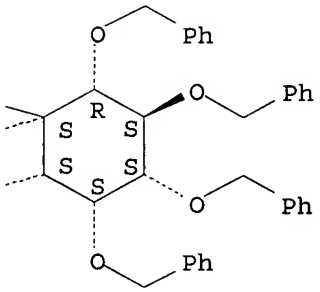




RN 164649-09-6 CAPLUS
CN D-myo-Inositol, O-6-O-[(2-cyanoethoxy)(phenylmethoxy)phosphinyl]-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-1,2,5,6-tetrakis-O-(phenylmethyl)-, 3-(dihydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry.

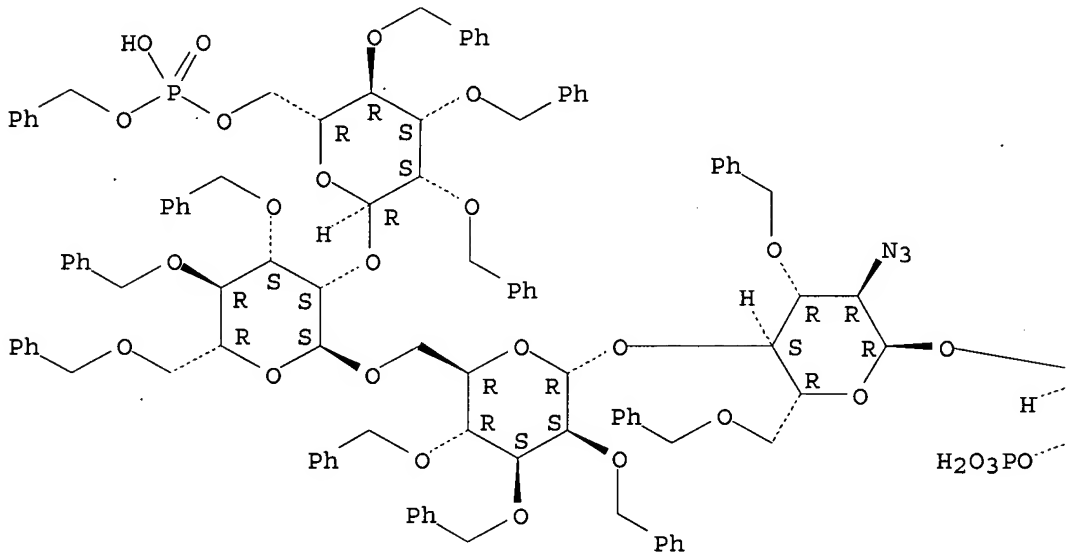


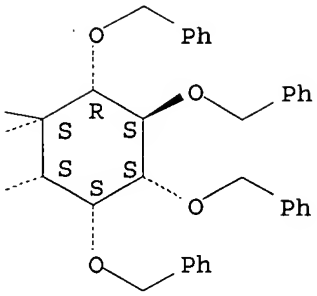


RN 164649-10-9 CAPLUS

CN D-myo-Inositol, O-6-O-[hydroxy(phenylmethoxy)phosphinyl]-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-1,2,5,6-tetrakis-O-(phenylmethyl)-, 3-(dihydrogen phosphate) (9CI) (CA INDEX NAME)

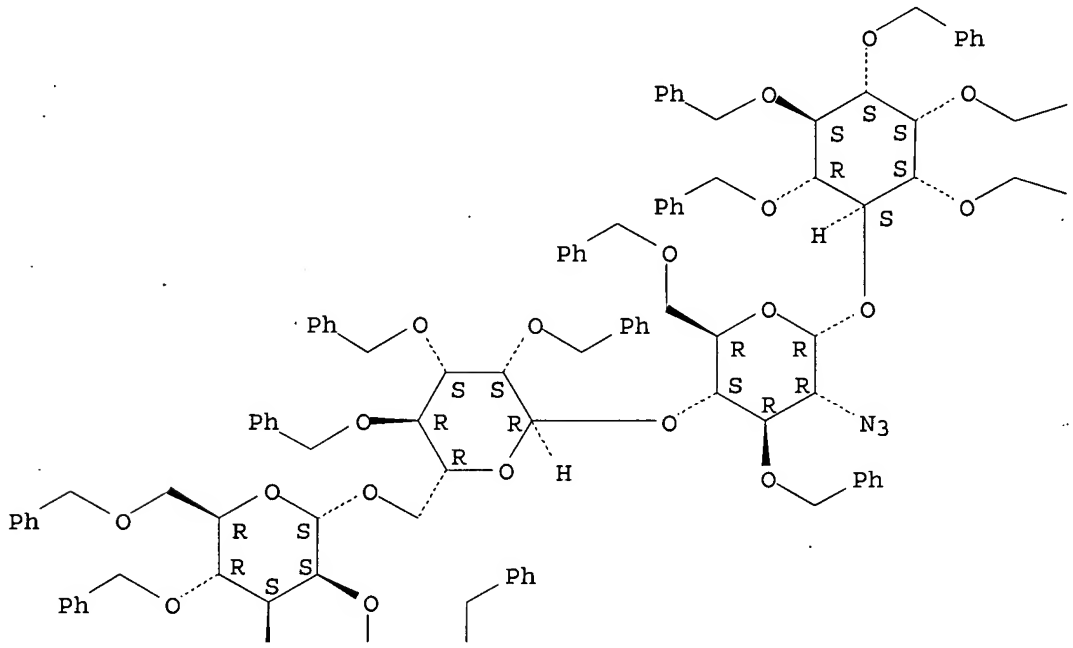
Absolute stereochemistry. Rotation (+).





RN 164649-17-6 CAPLUS
CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-2,3-bis-O-[(4-methoxyphenyl)methyl]-1,5,6-tris-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



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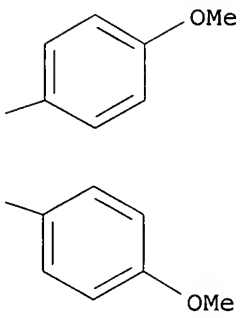

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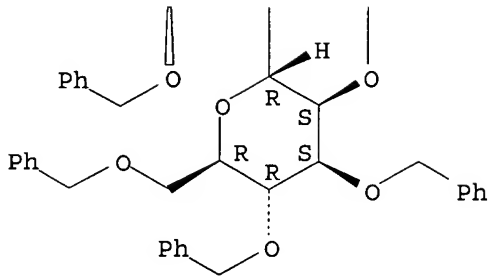

RN 164649-18-7 CAPLUS
CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-1,5,6-tris-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

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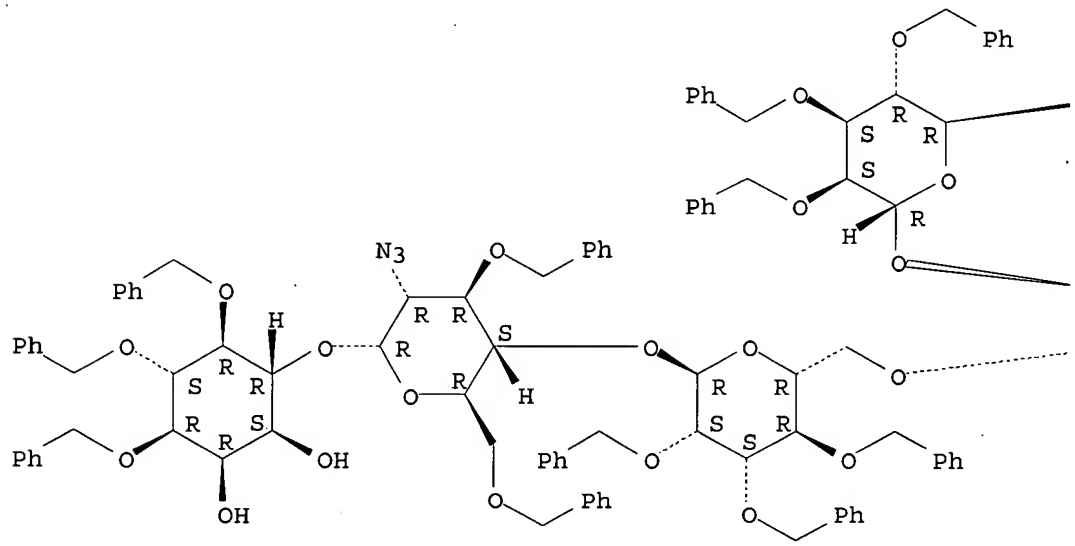
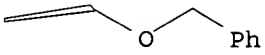
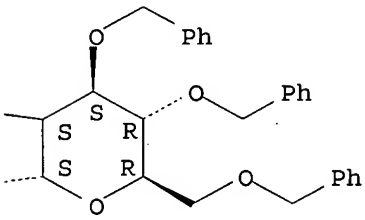
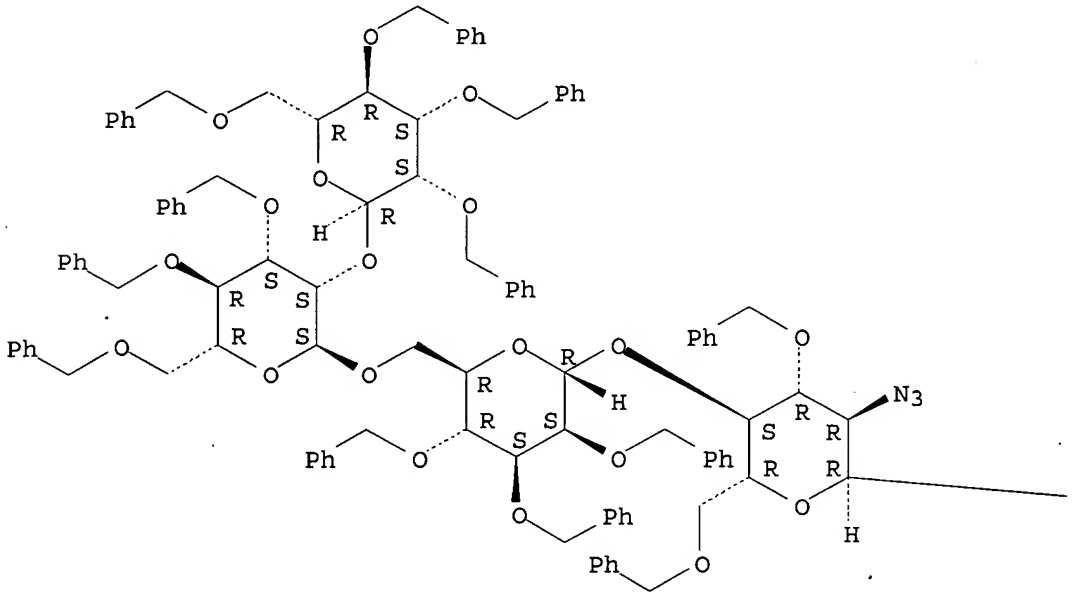


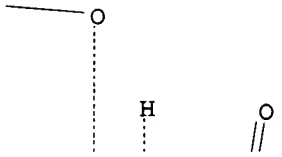


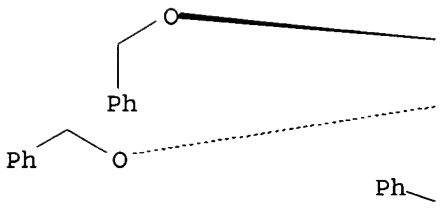


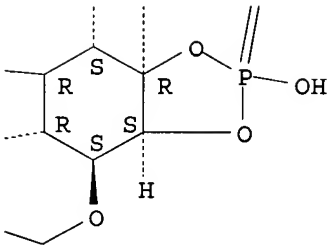
RN 164649-19-8 CAPLUS
CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-α-D-mannopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-mannopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-1,5,6-tris-O-(phenylmethyl)-, cyclic 2,3-(hydrogen phosphate) (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).









RN 164904-95-4 CAPLUS
CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-α-D-galactopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-galactopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-galactopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-3-O-[(4-methoxyphenyl)methyl]-1,2,5,6-tetrakis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

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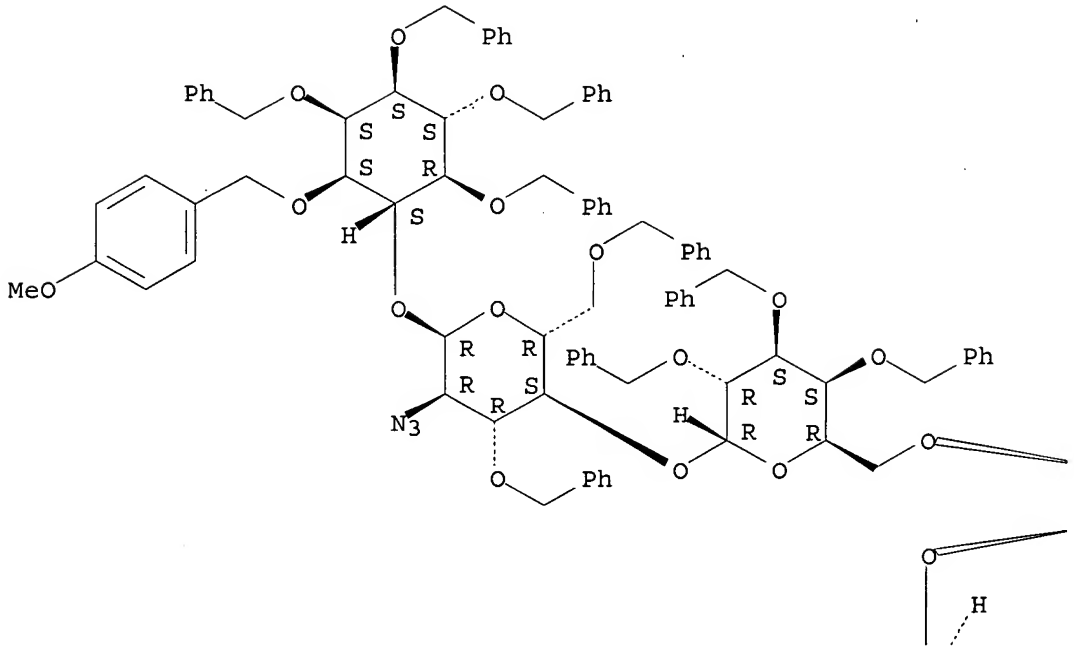

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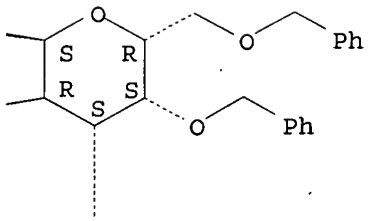

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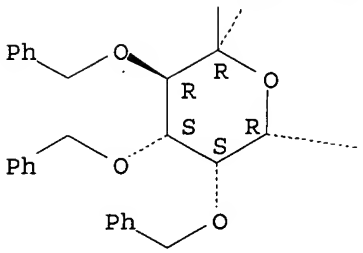

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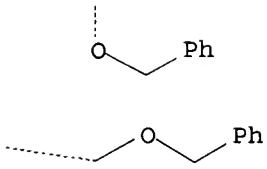

RN 164904-96-5 CAPLUS
CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-α-D-galactopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-galactopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-galactopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-1,2,5,6-tetrakis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

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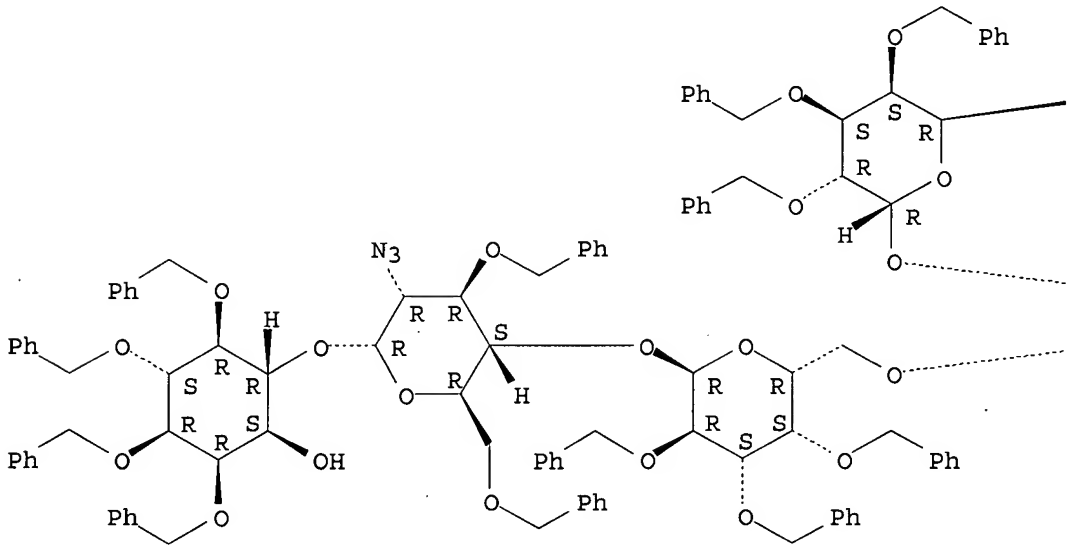
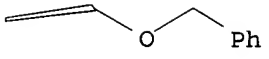
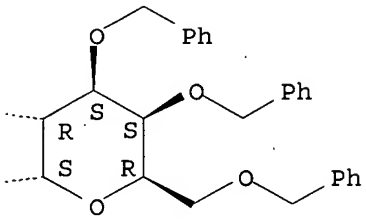
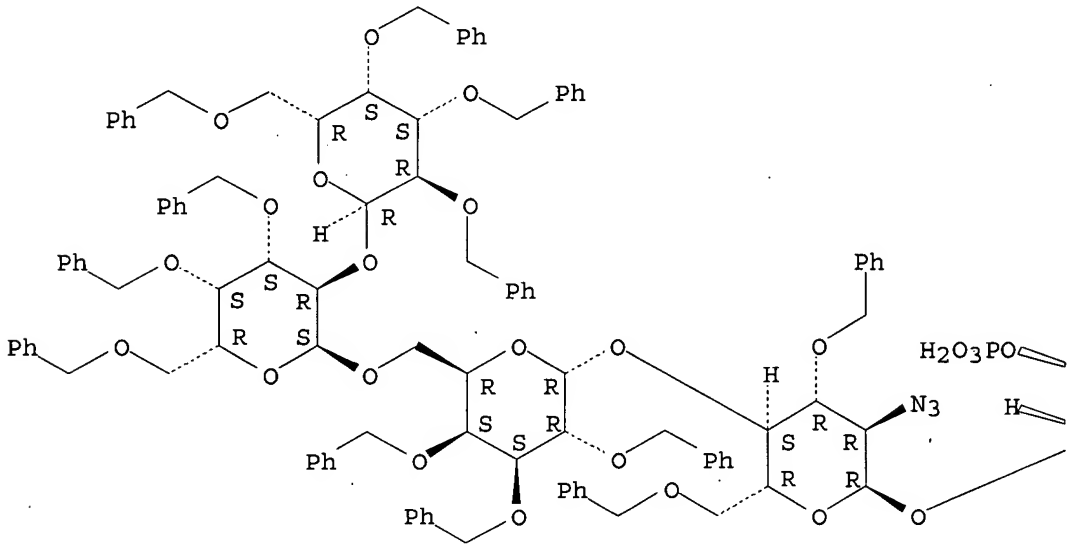


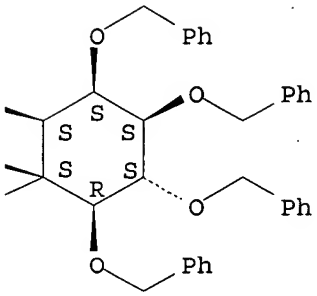




RN 164904-97-6 CAPLUS
CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-α-D-galactopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-galactopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-galactopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-1,2,5,6-tetrakis-O-(phenylmethyl)-, 3-(dihydrogen phosphate) (9CI) (CA INDEX NAME)

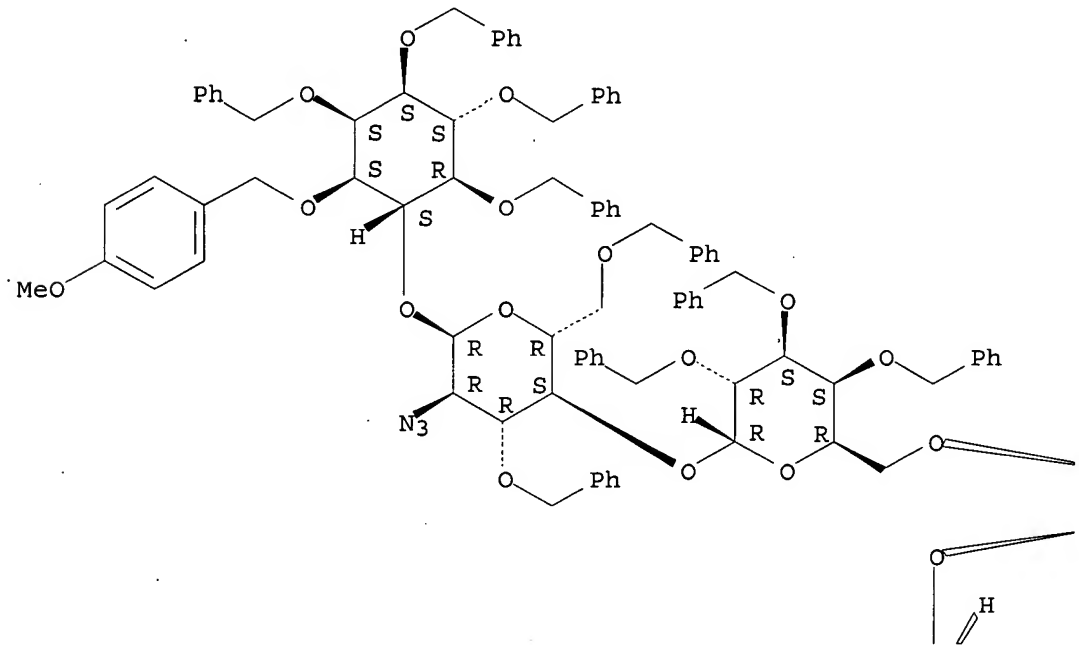
Absolute stereochemistry. Rotation (+).



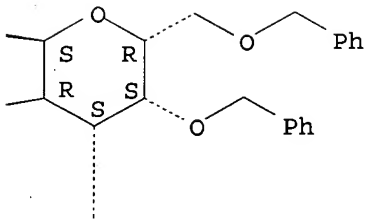


RN 164905-09-3 CAPLUS
CN D-myo-Inositol, O-2,3,4,6-tetrakis-O-(phenylmethyl)-β-D-galactopyranosyl-(1→2)-O-3,4,6-tris-O-(phenylmethyl)-α-D-galactopyranosyl-(1→6)-O-2,3,4-tris-O-(phenylmethyl)-α-D-galactopyranosyl-(1→4)-O-2-azido-2-deoxy-3,6-bis-O-(phenylmethyl)-α-D-glucopyranosyl-(1→4)-3-O-[(4-methoxyphenyl)methyl]-1,2,5,6-tetrakis-O-(phenylmethyl)- (9CI) (CA INDEX NAME)

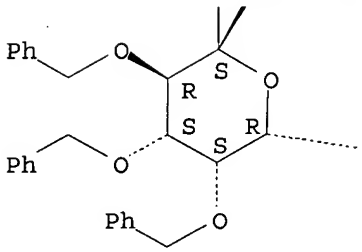
Absolute stereochemistry. Rotation (+).



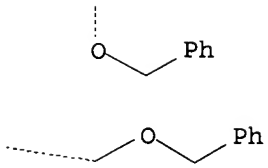
PAGE 1-B



PAGE 2-A



PAGE 2-B



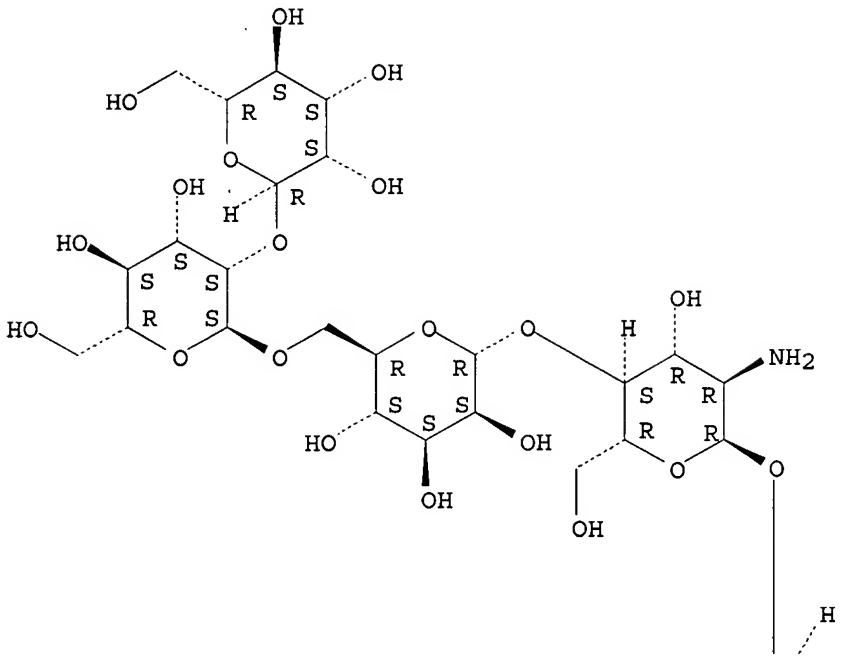
IT 164649-54-1P 164649-55-2P 164649-56-3P
164905-11-7P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of inositol glycans with insulin-like activity for treatment of diabetes)

RN 164649-54-1 CAPLUS

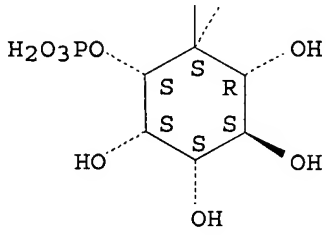
CN D-myo-Inositol, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-α-D-mannopyranosyl-(1→4)-O-2-amino-2-deoxy-α-D-glucopyranosyl-(1→4)-, 3-(dihydrogen phosphate), disodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

PAGE 1-A



PAGE 2-A

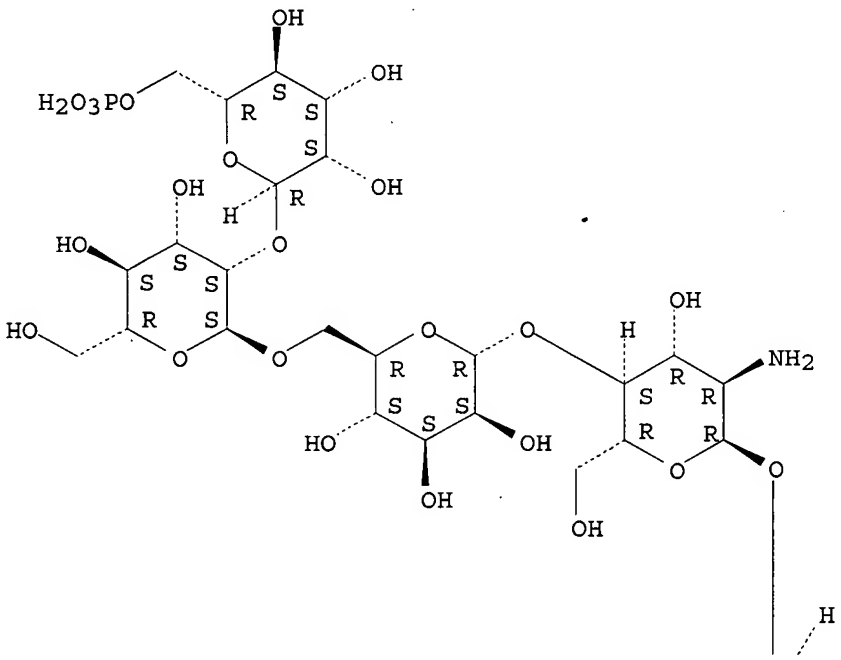


●2 Na

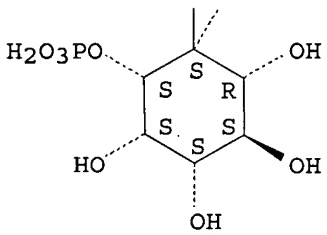
RN 164649-55-2 CAPLUS
CN D-myo-Inositol, O-6-O-phosphono-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-α-D-mannopyranosyl-(1→4)-O-2-amino-2-deoxy-α-D-glucopyranosyl-(1→4)-, 3-(dihydrogen phosphate), disodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

PAGE 1-A



PAGE 2-A



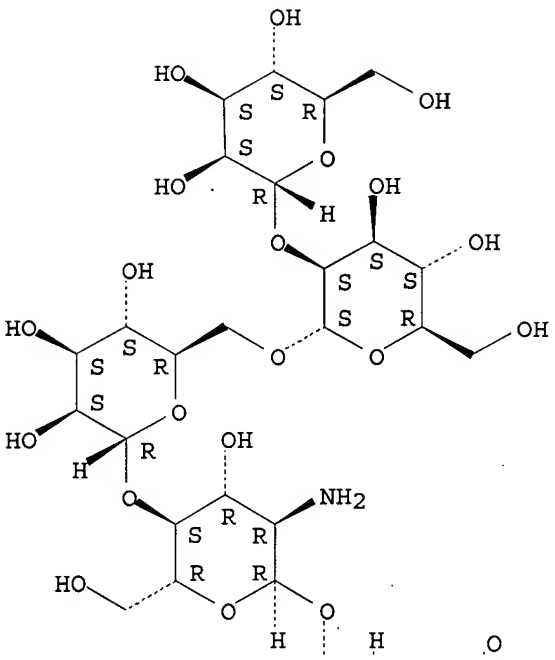
●2 Na

RN 164649-56-3 CAPLUS

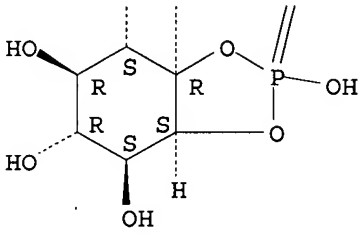
CN D-myo-Inositol, O-α-D-mannopyranosyl-(1→2)-O-α-D-mannopyranosyl-(1→6)-O-α-D-mannopyranosyl-(1→4)-O-2-amino-2-deoxy-α-D-glucopyranosyl-(1→4)-, cyclic 2,3-(hydrogen phosphate), monosodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

PAGE 1-A



PAGE 2-A

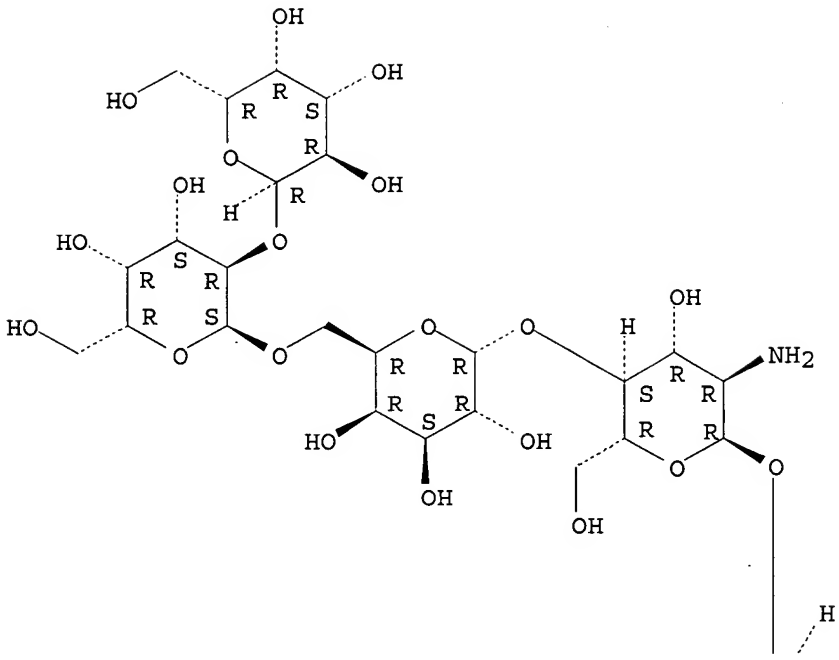


● Na

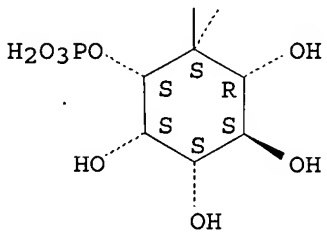
RN 164905-11-7 CAPLUS
CN D-myo-Inositol, O-α-D-galactopyranosyl-(1→2)-O-α-D-galactopyranosyl-(1→6)-O-α-D-galactopyranosyl-(1→4)-O-2-amino-2-deoxy-α-D-glucopyranosyl-(1→4)-, 3-(dihydrogen phosphate), disodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

PAGE 1-A



PAGE 2-A



●2 Na

3 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:484104 CAPLUS
DOCUMENT NUMBER: 137:184862
TITLE: Functional foods: concepts and application to inulin and oligofructose
AUTHOR(S): Roberfroid, Marcel B.
CORPORATE SOURCE: Universite Catholique de Louvain, Brussels, Belg.
SOURCE: British Journal of Nutrition (2002), 87(Suppl. 2), S139-S143
CODEN: BJNUAV; ISSN: 0007-1145
PUBLISHER: CABI Publishing
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review. A food can be regarded as functional if it affects beneficially one or more target functions in the body, beyond adequate nutritional effects, in a way which is relevant to the state of well-being and health or to decreased risk of diseases. Health claims are expected to be authorized for functional foods based on enhanced function (type A claim) or decreased disease risk (type B claim). The development of functional foods is a unique opportunity to contribute to the improvement of the quality of foods offered to consumer choice for the benefit of his well-being and health. Only rigorous scientific approach producing sound data will guarantee the success of functional foods. The functional food components include inulin-type fructans as natural food components found in miscellaneous edible plants. They are non-digestible oligosaccharides classified as dietary fiber. The targets for their functional effects are the colonic microflora that uses them as selective substrated, gastrointestinal physiol., immune functions, bioavailability of mineral nutrients, and metabolism of lipids. Potential health benefits may also include decreased risk of some diseases, such as intestinal infections, constipation, non-insulin dependent diabetes mellitus, obesity, osteoporosis, or colon cancer.
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:786717 CAPLUS
DOCUMENT NUMBER: 130:124373
TITLE: Prebiotics and synbiotics: concepts and nutritional properties
AUTHOR(S): Roberfroid, M. B.
CORPORATE SOURCE: Department Pharmaceutical Sciences, Universite Catholique de Louvain, Brussels, B-1200, Belg.
SOURCE: British Journal of Nutrition (1998), 80(Suppl. 2), S197-S202
CODEN: BJNUAV; ISSN: 0007-1145
PUBLISHER: CABI Publishing
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The main role of diet is to provide enough nutrients to meet th requirements of a balanced diet, while giving the consumer a feeling of satisfaction and well-being. The most recent knowledge in bioscience supports the hypothesis that diet also controls and modulates various functions in the body, and, in doing so, contributes to the state of good health necessary to reduce the risk of some diseases. It is such an hypothesis which is at the origin both of the concept of 'functional food' and the development of a new scientific discipline of 'functional food science'. In the context of this paper the potential 'functional foods' to be discussed are the prebiotics and the synbiotics. The prebiotics developed so far are the non-digestible oligosaccharides and especially the non-digestible fructans among which chicory fructans play a major role. The chicory fructans are β (2-1) fructo-oligosaccharides classified as natural food ingredients. They pos. affect various physiol. functions in such a way that they are already or

may, in the future, be classified as functional food ingredients for which claims of functional effects or of disease risk reduction might become authorized. They are classified as prebiotic and have been shown to induce an increase in the number of bifidobacteria in human fecal flora. As part of a synbiotic-type product, they are already bifidogenic at a dose of 2·75 g/d and the effect lasts for at least 7 wk. The other potential functional effects are on the bioavailability of minerals,but also, and more systemically, on the metabolism of lipids. Potential health benefits may concern reduction of the risk of intestinal infectious diseases, cardiovascular disease, non-insulin-dependent diabetes, obesity, osteoporosis and cancer. However, except for the prebiotic effect, and tentatively the improvement of calcium bioavailability, the evidence to support such effects is still missing in humans though hypotheses already exist to justify nutrition studies.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 3 OF 4 MEDLINE on STN
ACCESSION NUMBER: 2002345917 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12088510
TITLE: Functional foods: concepts and application to inulin and oligofructose.
AUTHOR: Roberfroid Marcel B
CORPORATE SOURCE: Universite Catholique de Louvain, Brussels, Belgium.. roberfroid@pmnt.ucl.ac.be
SOURCE: The British journal of nutrition, (2002 May) Vol. 87 Suppl 2, pp. S139-43. Ref: 30
Journal code: 0372547. ISSN: 0007-1145.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200208
ENTRY DATE: Entered STN: 29 Jun 2002
Last Updated on STN: 2 Aug 2002
Entered Medline: 1 Aug 2002

AB A food can be regarded as functional if it is satisfactorily demonstrated to affect beneficially one or more target functions in the body, beyond adequate nutritional effects, in a way which is relevant to either the state of well-being and health or the reduction of the risk of a disease. Health claims are expected to be authorized for functional foods based either on enhanced function (type A claim) or disease risk reduction (type B claim). Their development is a unique opportunity to contribute to the improvement of the quality of the food offered to consumer's choice for the benefit of his well-being and health. But only a rigorous scientific approach producing sound data will guarantee its success. The functional food components that are discussed in the proceedings of the 3rd ORAFTI Research Conference are the inulin-type fructans, natural food components found in miscellaneous edible plants. They are non-digestible oligosaccharides that are classified as dietary fiber. The targets for their functional effects are the colonic microflora that use them as selective 'fertilizers'; the gastrointestinal physiology; the immune functions; the bioavailability of minerals; and the metabolism of lipids. Potential health benefits may also concern reduction of the risk of some diseases like intestinal infections, constipation, non-insulin dependent diabetes, obesity, osteoporosis or colon cancer. The present proceedings review the scientific data available and, by reference to the concepts in functional food science, they assess the scientific evidence which will be used to substantiate health claims.

L13 ANSWER 4 OF 4 MEDLINE on STN
ACCESSION NUMBER: 1999123359 MEDLINE

DOCUMENT NUMBER: PubMed ID: 9924284
TITLE: Prebiotics and synbiotics: concepts and nutritional properties.
AUTHOR: Roberfroid M B
CORPORATE SOURCE: Universite Catholique de Louvain, Department of Pharmaceutical Sciences, Brussels, Belgium.
SOURCE: The British journal of nutrition, (1998 Oct) Vol. 80, No. 4, pp. S197-202. Ref: 38
Journal code: 0372547. ISSN: 0007-1145.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199902
ENTRY DATE: Entered STN: 16 Feb 1999
Last Updated on STN: 16 Feb 1999
Entered Medline: 4 Feb 1999

AB The main role of diet is to provide enough nutrients to meet the requirements of a balanced diet, while giving the consumer a feeling of satisfaction and well-being. The most recent knowledge in bioscience supports the hypothesis that diet also controls and modulates various functions in the body, and, in doing so, contributes to the state of good health necessary to reduce the risk of some diseases. It is such an hypothesis which is at the origin both of the concept of 'functional food' and the development of a new scientific discipline of 'functional food science'. In the context of this paper the potential 'functional foods' to be discussed are the prebiotics and the synbiotics. The prebiotics developed so far are the non-digestible oligosaccharides and especially the non-digestible fructans among which chicory fructans play a major role. The chicory fructans are beta (2-1) fructo-oligosaccharides classified as natural food ingredients. They positively affect various physiological functions in such a way that they are already or may, in the future, be classified as functional food ingredients for which claims of functional effects or of disease risk reduction might become authorized. They are classified as prebiotic and have been shown to induce an increase in the number of bifidobacteria in human faecal flora. As part of a synbiotic-type product, they are already bifidogenic at a dose of 2.75 g/d and the effect lasts for at least 7 weeks. The other potential functional effects are on the bioavailability of minerals, but also, and more systemically, on the metabolism of lipids. Potential health benefits may concern reduction of the risk of intestinal infectious diseases, cardiovascular disease, non-insulin-dependent diabetes, obesity, osteoporosis and cancer. However, except for the prebiotic effect, and tentatively the improvement of calcium bioavailability, the evidence to support such effects is still missing in humans though hypotheses already exist to justify nutrition studies.

L20 ANSWER 13 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:424051 CAPLUS
DOCUMENT NUMBER: 131:198665
TITLE: Concepts in functional foods: the case of inulin and oligofructose
AUTHOR(S): Roberfroid, Marcel B.
CORPORATE SOURCE: Universite Catholique de Louvain, Department of Pharmaceutical Sciences, Brussels, B-1200, Belg.
SOURCE: Journal of Nutrition (1999), 129(7S), 1398S-1401S
CODEN: JONUAI; ISSN: 0022-3166
PUBLISHER: American Society for Nutritional Sciences
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with 27 refs. Recent advances in biosciences support the hypothesis that diet modulates various body functions. Diet may maintain well-being and reduce the risk of some diseases. Such discoveries have led to the concept of "functional food" and the development of the new discipline, i.e., "functional food science.". A practical and simple definition of a "functional food" is a food for which a claim has been authorized. The food components to be discussed as potential "functional food ingredients" are the inulin-type fructans, i.e., chicory inulin and oligofructose. The targets for their effects are the colonic microflora, the gastrointestinal physiol., the immune functions, the bioavailability of minerals, the metabolism of lipids and colonic carcinogenesis. Potential health benefits include reduction of risk of colonic diseases, noninsulin-dependent diabetes, obesity, osteoporosis and cancer. The documentation of such benefits requires scientific evidence that must be evaluated in terms of "health claims.". Previous assessments have concluded that, in terms of "functional claims," strong evidence exists for a prebiotic effect and improved bowel habit. The evidence for calcium bioavailability is promising, and pos. modulation of triglyceride metabolism is undergoing preliminary evaluation. Scientific research still must be done to support any "disease risk reduction claim," but sound hypotheses do already exist for designing the relevant human nutrition trials.
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 14 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:786717 CAPLUS
DOCUMENT NUMBER: 130:124373
TITLE: Prebiotics and synbiotics: concepts and nutritional properties
AUTHOR(S): Roberfroid, M. B.
CORPORATE SOURCE: Department Pharmaceutical Sciences, Universite Catholique de Louvain, Brussels, B-1200, Belg.
SOURCE: British Journal of Nutrition (1998), 80(Suppl. 2), S197-S202
CODEN: BJNUAV; ISSN: 0007-1145
PUBLISHER: CABI Publishing
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The main role of diet is to provide enough nutrients to meet th requirements of a balanced diet, while giving the consumer a feeling of satisfaction and well-being. The most recent knowledge in bioscience supports the hypothesis that diet also controls and modulates various functions in the body, and, in doing so, contributes to the state of good health necessary to reduce the risk of some diseases. It is such an hypothesis which is at the origin both of the concept of 'functional food' and the development of a new scientific discipline of 'functional food science'. In the context of this paper the potential 'functional foods' to be discussed are the prebiotics and the synbiotics. The prebiotics developed so far are the non-digestible oligosaccharides and especially the

non-digestible fructans among which chicory fructans play a major role. The chicory fructans are β (2-1) fructo-oligosaccharides classified as natural food ingredients. They pos. affect various physiol. functions in such a way that they are already or may, in the future, be classified as functional food ingredients for which claims of functional effects or of disease risk reduction might become authorized. They are classified as prebiotic and have been shown to induce an increase in the number of bifidobacteria in human fecal flora. As part of a synbiotic-type product, they are already bifidogenic at a dose of 2·75 g/d and the effect lasts for at least 7 wk. The other potential functional effects are on the bioavailability of minerals,but also, and more systemically, on the metabolism of lipids. Potential health benefits may concern reduction of the risk of intestinal infectious diseases, cardiovascular disease, non-insulin-dependent diabetes, obesity, osteoporosis and cancer. However, except for the prebiotic effect, and tentatively the improvement of calcium bioavailability, the evidence to support such effects is still missing in humans though hypotheses already exist to justify nutrition studies.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 15 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:481349 CAPLUS
DOCUMENT NUMBER: 129:202306
TITLE: Dietary fructans
AUTHOR(S): Roberfroid, M. B.; Delzenne, N. M.
CORPORATE SOURCE: Department of Pharmaceutical Sciences, Universite Catholique de Louvain, UCL/BCTC 7369, Brussels, B-1200, Belg.
SOURCE: Annual Review of Nutrition (1998), 18, 117-143
CODEN: ARNTD8; ISSN: 0199-9885
PUBLISHER: Annual Reviews Inc.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 123 refs. Fructan is a general term used for any carbohydrate in which one or more fructosyl-fructose link constitutes the majority of osidic bonds. This review focuses on the fate of inulin-type fructans (namely native chicory inulin, oligofructose produced by the partial enzymic hydrolysis of chicory inulin, and synthetic fructans produced by enzymic synthesis from sucrose) in the gastrointestinal tract, as well as on their systemic physiol. effects on mineral absorption, carbohydrate and lipid metabolism, hormone balance, and nitrogen homeostasis. The scientific evidence for the functional claims of inulin-type fructans is discussed, as well as their potential application in risk reduction of disease, namely constipation, infectious diarrhea, cancer, osteoporosis, atherosclerotic cardiovascular disease, obesity, and non-insulin dependent diabetes.

REFERENCE COUNT: 121 THERE ARE 121 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 16 OF 23 MEDLINE on STN
ACCESSION NUMBER: 2005240567 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15877889
TITLE: Impact of inulin and oligofructose on gastrointestinal peptides.
AUTHOR: Delzenne Nathalie M; Cani Patrice D; Daubioul Catherine; Neyrinck Audrey M
CORPORATE SOURCE: Unit of Pharmacokinetics, Metabolism, Nutrition and Toxicology, MD/FARM/PMNT 7369, Universite Catholique de Louvain, Avenue E Mounier 73, B-1200 Brussels, Belgium.. Delzenne@pmnt.ucl.ac.be
SOURCE: The British journal of nutrition, (2005 Apr) Vol. 93 Suppl 1, pp. S157-61.

Journal code: 0372547. ISSN: 0007-1145.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200508
ENTRY DATE: Entered STN: 10 May 2005
Last Updated on STN: 9 Aug 2005
Entered Medline: 8 Aug 2005

AB In the present paper, we summarise the data supporting the following hypothesis: dietary inulin-type fructans extracted from chicory root may modulate the production of peptides, such as incretins, by endocrine cells present in the intestinal mucosa, this phenomenon being involved in the regulation of food intake and/or systemic effects. To test this hypothesis, male Wistar rats received for 3 weeks either a standard diet or the same diet supplemented with 10 % inulin-type fructans with different degrees of polymerisation. All the effects were most pronounced with the diet containing oligofructose, and consisted of (i) a decrease in mean daily energy intake and in epididymal fat mass; (ii) a higher caecal pool of the anorexigenic glucagon-like peptide-1 (7-36) amide (GLP-1), and peptide YY (PYY), due to caecal tissue proliferation; (iii) an increase in GLP-1 and of its precursor - proglucagon mRNA - concentrations in the proximal colon; (iv) an increase in portal serum level of GLP-1 and PYY; (v) a decrease in serum orexigenic peptide ghrelin. Moreover, oligofructose supplementation improved glucose homeostasis (i.e. decreased glycaemia, increased pancreatic and serum insulin content) in diabetic rats previously treated with streptozotocin, a phenomenon that is partly linked to the reduction in food intake and that correlates with the increase in colic and portal GLP-1 content. Based on these results it appears justified to test, in human subjects, the hypothesis that dietary inulin-type fructans could play a role in the management of obesity and diabetes through their capacity to promote secretion of endogenous gastrointestinal peptides involved in appetite regulation.

L20 ANSWER 17 OF 23 MEDLINE on STN
ACCESSION NUMBER: 2004339778 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15242186
TITLE: The effect of Smallanthus sonchifolius leaf extracts on rat hepatic metabolism.
AUTHOR: Valentova K; Moncion A; de Waziers I; Ulrichova J
CORPORATE SOURCE: Institute of Medical Chemistry and Biochemistry, Palacky University, Olomouc, Czech Republic..
kata.valentova@email.cz
SOURCE: Cell biology and toxicology, (2004 Mar) Vol. 20, No. 2, pp. 109-20.
Journal code: 8506639. ISSN: 0742-2091.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200412
ENTRY DATE: Entered STN: 10 Jul 2004
Last Updated on STN: 20 Dec 2004
Entered Medline: 14 Dec 2004

AB Smallanthus sonchifolius (yacon), originating from South America, has become popular in Japan and in New Zealand for its tubers which contain beta-1,2-oligofructans as the main saccharides. The plant is also successfully cultivated in Central Europe in the Czech Republic in particular. Its aerial part is used in Japan and in Brazil as a component in medicinal teas; while aqueous leaf extracts have been studied for their hypoglycemic activity in normal and diabetic rats. We have already demonstrated the high content of phenolic compounds in yacon leaf

extracts and their in vitro antioxidant activity. In this paper, we present the effects of two organic fractions and two aqueous extracts from the leaves of S. sonchifolius on rat hepatocyte viability, on oxidative damage induced by tert-butyl hydroperoxide (t-BH) and allyl alcohol (AA), and on glucose metabolism and their insulin-like effect on the expression of cytochrome P450 (CYP) mRNA. All the extracts tested exhibited strong protective effect against oxidative damage to rat hepatocyte primary cultures in concentrations ranging from 1 to 1000 microg/ml, reduced hepatic glucose production via gluconeogenesis and glycogenolysis at 1000 microg/ml. Moreover, the effects of the organic fractions (200 and 250 microg/ml) and to a lesser extent, the tea infusion (500 microg/ml) on rat CYP2B and CYP2E mRNA expression, were comparable to those observed with insulin. The combination of radical scavenging, cytoprotective and anti-hyperglycemic activity predetermine S. sonchifolius leaves for use in prevention and treatment of chronic diseases involving oxidative stress, particularly diabetes.

L20 ANSWER 18 OF 23 MEDLINE on STN
ACCESSION NUMBER: 2004142991 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15037892
TITLE: Smallanthus sonchifolius and Lepidium meyenii - prospective Andean crops for the prevention of chronic diseases.
AUTHOR: Valentova Katerina; Ulrichova Jitka
CORPORATE SOURCE: Institute of Medical Chemistry and Biochemistry, Faculty of Medicine, Palacky University, Hnevotinska 3, 775 15 Olomouc, Czech Republic.
SOURCE: Biomedical papers of the Medical Faculty of the University Palacky, Olomouc, Czechoslovakia, (2003 Dec) Vol. 147, No. 2, pp. 119-30. Ref: 102
Journal code: 101140142. ISSN: 1213-8118.
PUB. COUNTRY: Czech Republic
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200605
ENTRY DATE: Entered STN: 24 Mar 2004
Last Updated on STN: 19 Dec 2004
Entered Medline: 30 May 2006

AB Smallanthus sonchifolius (yacon) and Lepidium meyenii (maca) were the traditional crops of the original population of Peru where they are also still used in folk medicine. These plants are little known in Europe and Northern America although at least yacon can be cultivated in the climatic conditions of these regions. This article deals with the botany and the composition, the structure of main constituents, biological activity of these plants and the cultivation of yacon in the Czech Republic. The potential of yacon tubers to treat hyperglycemia, kidney problems and for skin rejuvenation and the antihyperglycemic and cytoprotective activity of its leaves seems to be related mostly to its oligofructan and phenolic content, respectively. Maca alkaloids, steroids, glucosinolates, isothicyanates and macamides are probably responsible for its aptitude to act as a fertility enhancer, aphrodisiac, adaptogen, immunostimulant, anabolic and to influence hormonal balance. Yacon and maca are already on the European market as prospective functional foods and dietary supplements, mainly for use in certain risk groups of the population, e.g. seniors, diabetics, postmenopausal women etc.

L20 ANSWER 19 OF 23 MEDLINE on STN
ACCESSION NUMBER: 2002345917 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12088510
TITLE: Functional foods: concepts and application to inulin and oligofructose.
AUTHOR: Roberfroid Marcel B

CORPORATE SOURCE: Universite Catholique de Louvain, Brussels, Belgium.. roberfroid@pmnt.ucl.ac.be
SOURCE: The British journal of nutrition, (2002 May) Vol. 87 Suppl 2, pp. S139-43. Ref: 30
Journal code: 0372547. ISSN: 0007-1145.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200208
ENTRY DATE: Entered STN: 29 Jun 2002
Last Updated on STN: 2 Aug 2002
Entered Medline: 1 Aug 2002

AB A food can be regarded as functional if it is satisfactorily demonstrated to affect beneficially one or more target functions in the body, beyond adequate nutritional effects, in a way which is relevant to either the state of well-being and health or the reduction of the risk of a disease. Health claims are expected to be authorized for functional foods based either on enhanced function (type A claim) or disease risk reduction (type B claim). Their development is a unique opportunity to contribute to the improvement of the quality of the food offered to consumer's choice for the benefit of his well-being and health. But only a rigorous scientific approach producing sound data will guarantee its success. The functional food components that are discussed in the proceedings of the 3rd ORAFTI Research Conference are the inulin-type fructans, natural food components found in miscellaneous edible plants. They are non-digestible oligosaccharides that are classified as dietary fiber. The targets for their functional effects are the colonic microflora that use them as selective 'fertilizers'; the gastrointestinal physiology; the immune functions; the bioavailability of minerals; and the metabolism of lipids. Potential health benefits may also concern reduction of the risk of some diseases like intestinal infections, constipation, non-insulin dependent diabetes, obesity, osteoporosis or colon cancer. The present proceedings review the scientific data available and, by reference to the concepts in functional food science, they assess the scientific evidence which will be used to substantiate health claims.

L20 ANSWER 20 OF 23 MEDLINE on STN
ACCESSION NUMBER: 2000298222 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10837317
TITLE: Prebiotics and probiotics: are they functional foods?.
AUTHOR: Roberfroid M B
CORPORATE SOURCE: Department of Pharmaceutical Sciences, Universite Catholique de Louvain, Brussels, Belgium.. roberfroid@pmnt.ucl.ac.be
SOURCE: The American journal of clinical nutrition, (2000 Jun) Vol. 71, No. 6 Suppl, pp. 1682S-7S; discussion 1688S-90S. Ref: 48
Journal code: 0376027. ISSN: 0002-9165.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200007
ENTRY DATE: Entered STN: 10 Aug 2000
Last Updated on STN: 10 Aug 2000
Entered Medline: 27 Jul 2000

AB A probiotic is a viable microbial dietary supplement that beneficially affects the host through its effects in the intestinal tract. Probiotics are widely used to prepare fermented dairy products such as yogurt or freeze-dried cultures. In the future, they may also be found in fermented vegetables and meats. Several health-related effects associated with the

intake of probiotics, including alleviation of lactose intolerance and immune enhancement, have been reported in human studies. Some evidence suggests a role for probiotics in reducing the risk of rotavirus-induced diarrhea and colon cancer. Prebiotics are nondigestible food ingredients that benefit the host by selectively stimulating the growth or activity of one or a limited number of bacteria in the colon. Work with prebiotics has been limited, and only studies involving the inulin-type fructans have generated sufficient data for thorough evaluation regarding their possible use as functional food ingredients. At present, claims about reduction of disease risk are only tentative and further research is needed. Among the claims are constipation relief, suppression of diarrhea, and reduction of the risks of osteoporosis, atherosclerotic cardiovascular disease associated with dyslipidemia and insulin resistance, obesity, and possibly type 2 diabetes. The combination of probiotics and prebiotics in a synbiotic has not been studied. This combination might improve the survival of the bacteria crossing the upper part of the gastrointestinal tract, thereby enhancing their effects in the large bowel. In addition, their effects might be additive or even synergistic.

L20 ANSWER 21 OF 23 MEDLINE on STN
ACCESSION NUMBER: 1999335745 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10395606
TITLE: Concepts in functional foods: the case of inulin and oligofructose.
AUTHOR: Roberfroid M B
CORPORATE SOURCE: Universite Catholique de Louvain, Département of Pharmaceutical Sciences, B-1200 Brussels, Belgium.
SOURCE: The Journal of nutrition, (1999 Jul) Vol. 129, No. 7 Suppl, pp. 1398S-401S. Ref: 27
Journal code: 0404243. ISSN: 0022-3166.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199908
ENTRY DATE: Entered STN: 20 Aug 1999
Last Updated on STN: 20 Aug 1999
Entered Medline: 12 Aug 1999

AB Recent advances in biosciences support the hypothesis that diet modulates various body functions. Diet may maintain well-being and reduce the risk of some diseases. Such discoveries have led to the concept of "functional food" and the development of the new discipline, i.e., "functional food science." A practical and simple definition of a "functional food" is a food for which a claim has been authorized. The food components to be discussed as potential "functional food ingredients" are the inulin-type fructans, i.e., chicory inulin and oligofuctose. The targets for their effects are the colonic microflora, the gastrointestinal physiology, the immune functions, the bioavailability of minerals, the metabolism of lipids and colonic carcinogenesis. Potential health benefits include reduction of risk of colonic diseases, noninsulin-dependent diabetes, obesity, osteoporosis and cancer. The documentation of such benefits requires scientific evidence that must be evaluated in terms of "health claims." Previous assessments have concluded that, in terms of "functional claims," strong evidence exists for a prebiotic effect and improved bowel habit. The evidence for calcium bioavailability is promising, and positive modulation of triglyceride metabolism is undergoing preliminary evaluation. Scientific research still must be done to support any "disease risk reduction claim," but sound hypotheses do already exist for designing the relevant human nutrition trials.

L20 ANSWER 22 OF 23 MEDLINE on STN
ACCESSION NUMBER: 1999123359 MEDLINE

DOCUMENT NUMBER: PubMed ID: 9924284
TITLE: Prebiotics and synbiotics: concepts and nutritional properties.
AUTHOR: Roberfroid M B
CORPORATE SOURCE: Universite Catholique de Louvain, Department of Pharmaceutical Sciences, Brussels, Belgium.
SOURCE: The British journal of nutrition, (1998 Oct) Vol. 80, No. 4, pp. S197-202. Ref: 38
Journal code: 0372547. ISSN: 0007-1145.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199902
ENTRY DATE: Entered STN: 16 Feb 1999
Last Updated on STN: 16 Feb 1999
Entered Medline: 4 Feb 1999

AB The main role of diet is to provide enough nutrients to meet the requirements of a balanced diet, while giving the consumer a feeling of satisfaction and well-being. The most recent knowledge in bioscience supports the hypothesis that diet also controls and modulates various functions in the body, and, in doing so, contributes to the state of good health necessary to reduce the risk of some diseases. It is such an hypothesis which is at the origin both of the concept of 'functional food' and the development of a new scientific discipline of 'functional food science'. In the context of this paper the potential 'functional foods' to be discussed are the prebiotics and the synbiotics. The prebiotics developed so far are the non-digestible oligosaccharides and especially the non-digestible fructans among which chicory fructans play a major role. The chicory fructans are beta (2-1) fructo-oligosaccharides classified as natural food ingredients. They positively affect various physiological functions in such a way that they are already or may, in the future, be classified as functional food ingredients for which claims of functional effects or of disease risk reduction might become authorized. They are classified as prebiotic and have been shown to induce an increase in the number of bifidobacteria in human faecal flora. As part of a synbiotic-type product, they are already bifidogenic at a dose of 2.75 g/d and the effect lasts for at least 7 weeks. The other potential functional effects are on the bioavailability of minerals, but also, and more systemically, on the metabolism of lipids. Potential health benefits may concern reduction of the risk of intestinal infectious diseases, cardiovascular disease, non-insulin-dependent diabetes, obesity, osteoporosis and cancer. However, except for the prebiotic effect, and tentatively the improvement of calcium bioavailability, the evidence to support such effects is still missing in humans though hypotheses already exist to justify nutrition studies.

L20 ANSWER 23 OF 23 MEDLINE on STN
ACCESSION NUMBER: 1998371494 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9706221
TITLE: Dietary fructans.
AUTHOR: Roberfroid M B; Delzenne N M
CORPORATE SOURCE: Universite Catholique de Louvain, Department of Pharmaceutical Sciences, Brussels, Belgium.. roberfroid@bctc.ucl.ac.be
SOURCE: Annual review of nutrition, (1998) Vol. 18, pp. 117-43.
Ref: 123
Journal code: 8209988. ISSN: 0199-9885.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals

ENTRY MONTH: 199810
ENTRY DATE: Entered STN: 29 Oct 1998
Last Updated on STN: 29 Oct 1998
Entered Medline: 22 Oct 1998

AB Fructan is a general term used for any carbohydrate in which one or more fructosyl-fructose link constitutes the majority of osidic bonds. This review focuses on the fate of inulin-type fructans (namely native chicory inulin, oligofructose produced by the partial enzymatic hydrolysis of chicory inulin, and synthetic fructans produced by enzymatic synthesis from sucrose) in the gastrointestinal tract, as well as on their systemic physiological effects on mineral absorption, carbohydrate and lipid metabolism, hormone balance, and nitrogen homeostasis. The scientific evidence for the functional claims of inulin-type fructans is discussed, as well as their potential application in risk reduction of disease, namely constipation, infectious diarrhea, cancer, osteoporosis, atherosclerotic cardiovascular disease, obesity, and non-insulin dependent diabetes.

L20 ANSWER 1 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1267596 CAPLUS
DOCUMENT NUMBER: 144:273425
TITLE: Effects of fructans on blood glucose, activities of disaccharidases and immune function in streptozotocin-induced diabetic mice
AUTHOR(S): Jeong, Hyun-Jin; Sung, Hye-Young; Choi, Young-Sun; Cho, Sung-Hee
CORPORATE SOURCE: Dept. of Food and Nutrition, Daegu University, Gyeongsan, 712-714, S. Korea
SOURCE: Han'guk Sikp'um Yongyang Kwahak Hoechi (2005), 34(8), 1188-1194
CODEN: HSYHFB; ISSN: 1226-3311
PUBLISHER: Korean Society of Food Science and Nutrition
DOCUMENT TYPE: Journal
LANGUAGE: Korean

AB This study was conducted to investigate effects of fructans (chicory inulin, fructooligosaccharide and chicory inulin oligosaccharide) on blood glucose, activities of disaccharidases in small bowel and kidneys, and splenocyte proliferation in streptozotocin-induced diabetic mice. Sixty ICR male mice were divided into one normal group and four diabetic groups. Diabetes was induced by injecting streptozotocin after 2 wk of exptl. diets feeding. Exptl. diets based on AIN93G diet were control diet, 6% fructooligosaccharide (FOS) diet, 6% chicory inulin oligosaccharide (CIOS) diet, 6% chicory inulin (CI) diet, and given for 25 days after streptozotocin injection. Plasma glucose was lower in Diabetic-CI group as compared to Diabetic-control group. Plasma insulin level was not different among diabetic groups. Specific activities of jejunal maltase and sucrase in diabetic groups were about double as that of Normal group. Jejunal maltase activity and plasma glucose were pos. correlated (r = 0.643). However, specific activity of renal maltase in diabetic groups was not significantly different as compared to Normal group. Stimulation index of splenocyte proliferation by lipopolysaccharide (LPS) was significantly increased in Diabetic -CIOS as compared to Diabetic-control. Stimulation index of splenocyte proliferation by Con A (ConA) tended to be higher in Diabetic-CIOS group. Concns. of interleukin-2 and interferon-γ secreted from splenocytes induced by ConA were not significantly different among all groups. In conclusion, fructans may be effective for lowering plasma glucose, possibly by lowering disaccharidase activity and for increasing immune responses in diabetic conditions, where their effects can be different depending on d.p.

L20 ANSWER 2 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1211428 CAPLUS
DOCUMENT NUMBER: 143:459147
TITLE: Cooked ham with dietary fiber
INVENTOR(S): Cardellini, Silvio
PATENT ASSIGNEE(S): I Fratelli Emiliani S.p.A., Italy
SOURCE: Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1595461	A1	20051116	EP 2005-8365	20050418
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK,				

BA, HR, IS, YU
PRIORITY APPLN. INFO.: IT 2004-MI934 A 20040510
AB A cooked ham comprises dietary fiber (e.g., fructans) to replace sugars, providing a lowered calorie content and a product that may be consumed by people with problems of diabetes and glycemia.
REFERENCE COUNT: . 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 3 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:599925 CAPLUS
DOCUMENT NUMBER: 143:247504
TITLE: Impact of inulin and oligofructose on gastrointestinal peptides
AUTHOR(S): Delzenne, Nathalie M.; Cani, Patrice D.; Daubioul, Catherine; Neyrinck, Audrey M.
CORPORATE SOURCE: Unit of Pharmacokinetics, Metabolism, Nutrition and Toxicology, MD/FARM/PMNT 7369, Universite Catholique de Louvain, Brussels, B-1200, Belg.
SOURCE: British Journal of Nutrition (2005), 93(Suppl. 1), S157-S161
CODEN: BJNUAV; ISSN: 0007-1145
PUBLISHER: CABI Publishing
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review summarizing the data supporting the following hypothesis: dietary inulin-type fructans extracted from chicory root may modulate the production of peptides, such as incretins, by endocrine cells present in the intestinal mucosa, this phenomenon being involved in the regulation of food intake and/or systemic effects. To test this hypothesis, male Wistar rats received for 3 wk either a standard diet or the same diet supplemented with 10% inulin-type fructans with different degrees of polymerization All the effects were most pronounced with the diet containing oligofructose, and consisted of (i) a decrease in mean daily energy intake and in epididymal fat mass; (ii) a higher caecal pool of the anorexigenic glucagon-like peptide-1 (7-36) amide (GLP-1), and peptide YY (PYY), due to caecal tissue proliferation; (iii) an increase in GLP-1 and of its precursor - proglucagon mRNA - concns. in the proximal colon; (iv) an increase in portal serum level of GLP-1 and PYY; (v) a decrease in serum orexigenic peptide ghrelin. Moreover, oligofructose supplementation improved glucose homeostasis (i.e. decreased glycemia, increased pancreatic and serum insulin content) in diabetic rats previously treated with streptozotocin, a phenomenon that is partly linked to the reduction in food intake and that correlates with the increase in colic and portal GLP-1 content. Based on these results it appears justified to test, in human subjects, the hypothesis that dietary inulin-type fructans could play a role in the management of obesity and diabetes through their capacity to promote secretion of endogenous gastrointestinal peptides involved in appetite regulation.
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 4 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:923560 CAPLUS
DOCUMENT NUMBER: 142:197024
TITLE: Enteral nutritional product for suppression of diarrhea and fecal odor
INVENTOR(S): Ha, Wol Gyu; Oh, Hyeon In; Yang, Hui Jin; Yang, Su Jin
PATENT ASSIGNEE(S): Korea Medical Foods Co., Ltd., S. Korea
SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7
DOCUMENT TYPE: Patent
LANGUAGE: Korean
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
KR 2002029232	A	20020418	KR 2000-60079	20001012

PRIORITY APPLN. INFO.: KR 2000-60079 20001012

AB An enteral nutritional product containing an Agaricus bisporus extract and a fructan fiber is provided which can remove fecal odor and prevent diarrhea and can be used as special nutritious food for a patient of renal failure, kidney disease, chronic hepatic disease, diabetes, or gastrointestinal disorders. This enteral nutritional product contains a hydrophilic solvent extract of fresh Agaricus bisporus and fructan as a water-soluble dietary fiber. The product is a powder or liquid form, wherein in the case of a powder form, the product contains 0.1-0.4g hydrophilic solvent extract of fresh Agaricus bisporus and 2.5-8 g fructan per 100 g, resp., and in the case of liquid form, the product contains ≤0.4 g hydrophilic solvent extract of fresh Agaricus bisporus and 2.5-8 g fructan per 100 g, resp.

L20 ANSWER 5 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:640519 CAPLUS
DOCUMENT NUMBER: 139:361567
TITLE: Yacon [Smallanthus sonchifolia (Poepp. et Endl.) H. Robinson] chemical composition and use - a review
AUTHOR(S): Lachman, J.; Fernandez, E. C.; Orsak, M.
CORPORATE SOURCE: Czech University of Agriculture, Prague, Czech Rep.
SOURCE: Plant, Soil and Environment (2003), 49(6), 283-290
CODEN: PSELB7; ISSN: 1214-1178
PUBLISHER: Czech Academy of Agricultural Sciences, Institute of Agricultural and Food Information
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review. Yacon [Smallanthus sonchifolia (Poepp. et Endl.) H. Robinson], a native plant of the Andes, belongs to the family Compositae (Asteraceae) and it represents a traditional crop of the original population of Peru used in traditional medicine. A major portion of tuberous root biomass is composed of water (> 70% of fresh weight). Saccharides, especially oligofructans, form 70-80% of dry weight, protein content ranges between 0.3% and 3.7%. Fructooligosaccharides of inulin type β (2→1), mainly oligomers (GF2-GF16), are known for their ability to keep the colon healthy. Yacon sweetness is predominantly caused by fructose, which is by some 70% sweeter than sucrose. Other oligosaccharides are 1-kestose and nystose. Diabetics and persons suffering from digestive problems are recommended to consume yacon because its sugars are not available from the small intestine. The mean tuberous root composition per 100 g of fresh matter is 81.3, 13.8, 0.9, 1.0, 0.1 and 1.1 g of water, saccharides, fiber, proteins, lipids and ash, resp. Mean mineral contents per 100 g of fresh matter are 334, 34, 12, 8.4, 0.4 and 0.2 mg of potassium, phosphorus, calcium, magnesium, sodium and iron, resp. Vitamins B1, B2, C, β-carotene and polyphenols in the same weight are present at mean concns. 0.07, 0.31, 5.0, 0.13 and 203 mg, resp. Yacon can be considered an industrial crop, particularly as a source of inulin. The used forms are flour, syrup, extract from tuberous roots and moreover leaf extract for the preparation of yacon infusion with hypoglycemic effect. In yacon leaves di- and sesquiterpenes with protective effects against insects are present, among them mainly ent-kaurenic acid (ent-kaur-16-en-19-oic acid) and its derivative-15-α-angeloyloxy-ent-kauren-19-oic acid 16-epoxide. Other components are polyphenolic antioxidants, especially hydroxycinnamic acids and chlorogenic acid. A new antifungal melampolide-sesquiterpene lactone named sonchifolin, as well as three known melampolides, polymatin B, uvedalin and enhydrin, were isolated from leaf exts. of yacon. Three major phytoalexins were isolated: 4'-hydroxy-3'-(3-methylbutanoyl)acetophenone, 4'-hydroxy-3'-(3-methyl-2-butenyl)acetophenone and 5-acetyl-2-(1-hydroxy-1-methylethyl)benzofuran.

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 6 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:571576 CAPLUS
DOCUMENT NUMBER: 139:380163
TITLE: Fructooligosaccharides and other fructans: structures and occurrence, production, regulatory aspects, food applications, and nutritional health significance
AUTHOR(S): Tungland, Bryan C.
CORPORATE SOURCE: Imperial Sensus, L.L.C., Sugar Land, TX, 77478, USA
SOURCE: ACS Symposium Series (2003), 849(Oligosaccharides in Food and Agriculture), 135-152
CODEN: ACSMC8; ISSN: 0097-6156
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review; the non-digestible fructans, particularly inulin and their subset the fructooligosaccharides (FOS), possess a number of highly desirable attributes, such as no carigenicity, safe for diabetics , low calories, selective source of dietary fiber, and strong bifidus-stimulation. They further add to the functionality in food products by adding texture, mouthfeel, taste improvement, and can help replace sugar and/or fat. These healthy ingredients are widely distributed in nature, being only second to starch in their occurrence, and can pos. contribute to the health of individuals in several physiol. areas. These mols. have been shown to be excellent prebiotic fiber sources, selectively enhancing the growth of healthy gut microflora, while suppressing the growth of pathogenic bacteria, to demonstrate several key health implications.
REFERENCE COUNT: 115 THERE ARE 115 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 7 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:307018 CAPLUS
DOCUMENT NUMBER: 139:210887
TITLE: Bud source, asepsis and benzylaminopurine (BAP) effect on yacon (Polymnia sonchifolia) micropropagation
AUTHOR(S): Mogor, G.; Mogor, A. F.; Lima, G. P. P.
CORPORATE SOURCE: Plant Production Department, Agronomic Science College, Sao Paulo State University (UNESP), Botucatu, CEP 18.603-970, Brazil
SOURCE: Acta Horticulturae (2003), 597(Proceedings of the International Conference on Medicinal and Aromatic Plants, Part II, 2001), 311-314
CODEN: AHORA2; ISSN: 0567-7572
PUBLISHER: International Society for Horticultural Science
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The yacon (Polymnia sonchifolia) is used largely for the high fructan content of its tubers; consequently, it is a good alternative for diabetics. One of the more important restricting factors of the com. production of yacon is its susceptibility to nematode attack. This, as well as germplasm bank maintenance, justifies the importance of in vitro propagation of this species. This study aimed to verify the best asepsis method for yacon for the in vitro establishment from the rhizophore and the axillary buds of the aerial parts, and the effect of benzylaminopurine (BAP) addition to the culture medium. The number of contaminated cultures, the occurrence of phenolic oxidation and the occurrence of a vitreous aspect, showed differences with bud source, immersion time for asepsis, and BAP use. The results contribute to establishing a yacon micro propagation procedure.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 8 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:484104 CAPLUS
DOCUMENT NUMBER: 137:184862
TITLE: Functional foods: concepts and application to inulin and oligofructose
AUTHOR(S): Roberfroid, Marcel B.
CORPORATE SOURCE: Universite Catholique de Louvain, Brussels, Belg.
SOURCE: British Journal of Nutrition (2002), 87(Suppl. 2), S139-S143
CODEN: BJNUAV; ISSN: 0007-1145
PUBLISHER: CABI Publishing
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review. A food can be regarded as functional if it affects beneficially one or more target functions in the body, beyond adequate nutritional effects, in a way which is relevant to the state of well-being and health or to decreased risk of diseases. Health claims are expected to be authorized for functional foods based on enhanced function (type A claim) or decreased disease risk (type B claim). The development of functional foods is a unique opportunity to contribute to the improvement of the quality of foods offered to consumer choice for the benefit of his well-being and health. Only rigorous scientific approach producing sound data will guarantee the success of functional foods. The functional food components include inulin-type fructans as natural food components found in miscellaneous edible plants. They are non-digestible oligosaccharides classified as dietary fiber. The targets for their functional effects are the colonic microflora that uses them as selective substrated, gastrointestinal physiol., immune functions, bioavailability of mineral nutrients, and metabolism of lipids. Potential health benefits may also include decreased risk of some diseases, such as intestinal infections, constipation, non-insulin dependent diabetes mellitus, obesity, osteoporosis, or colon cancer.
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 9 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:186278 CAPLUS
TITLE: Fructo-oligosaccharides and other fructans: structures and occurrences, production, regulatory aspects, food applications and nutritional health significance
AUTHOR(S): Tungland, Bryan C.
CORPORATE SOURCE: Imperial Sensus, LLC, Sugar Land, TX, 77478, USA
SOURCE: Abstracts of Papers, 223rd ACS National Meeting, Orlando, FL, United States, April 7-11, 2002 (2002), CARB-033. American Chemical Society: Washington, D. C.
CODEN: 69CKQP
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB Fructans, such as inulin, levans, and fructooligosaccharides (FOS) occur naturally as a reserve carbohydrate material in a wide variety plants, such as Jerusalem artichokes, chicory, onions, asparagus, wheat, rye, bananas, and garlic, and are produced extracellularly by many types of microorganisms. They are a group of relatively low-mol. weight linear polymers of fructose. FOS are produced on a com. scale in two ways, either from sucrose by transfructosylation using a food grade β-fructosidase from the fungus Aspergillus niger, or from native chicory inulin by partial hydrolysis using endo-glycosidases. The FOS from sucrose are only composed of glucosyl (1-2)(fructosyl)n (2-1)fructose with n=1 to 3, while fructans from partially hydrolyzed inulin are a mixture of glucosyl (1-2)(fructosyl)n (2-1) fructose with n=1 to 6 and

fructosyl (2-1)(fructosyl)n (2-1)fructose with n=2 to 7. Native inulin, is a linear mol. of predominately glucosyl (1-2)(fructosyl)n (2-1)fructose with n=1 to 60, possessing a minor amount of β(2 6) branching. Native inulin is primarily produced com. by extraction and purification from chicory root
(Cichorium intybus). Levan, by comparison, is also a linear mol. composed of glucosyl (1-2)(fructosyl)n (2-6)fructose with n=1 to 3M, possessing a minor amount of β(2 1) branching and can be com. produced by several bacterium, notably Bacillus polymyxa using sucrose. Inulin and FOS add to the functionality in food products by adding texture and mouthfeel, improving taste, can help replace sugar and/or fat and act as filler/binders in tablets. These mols. also are excellent prebiotic fiber sources, selectively enhancing the growth of healthy gut microflora, while suppressing the growth of pathogenic bacteria, to demonstrate potential health implications. The most promising areas of health promotion are enhancement of mineral absorption, particularly calcium, protection from invading pathogens, and providing enhanced immune functions and anti-tumor activity. In addition, these mols. have shown systemic physiol. effects by modulating lipid and carbohydrate metabolism for cardiovascular and diabetic health implications. Inulin and FOS have food ingredient status globally and are recognized as GRAS ingredients in the USA. The efficacious dose for health implications is approx. 5 g per day.

L20 ANSWER 10 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:840094 CAPLUS
DOCUMENT NUMBER: 137:41412
TITLE: Peripheral blood lymphocyte proliferation-inducing activity of glucofructan from the roots of Symphytum asperum Lepech (Boraginaceae)
AUTHOR(S): Tevzadze, M.; Barbakadze, V.; Burdjanadze, L.; Kvirkvelia, D.; Gachechiladze, N.; Usov, A. I.; Porakishvili, N.
CORPORATE SOURCE: S.Durmishidze Inst. of Biochem. and Biotechnol., Georg. Acad. Sci., Tbilisi, Georgia
SOURCE: Bulletin of the Georgian Academy of Sciences (2001), 163(3), 559-562
CODEN: BGASFC; ISSN: 1560-0262
PUBLISHER: Georgian Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Immunostimulatory activity of glucofructan from S. asperum was evaluated by its ability to induce peripheral blood lymphocyte (PBL) proliferation in different immunopathol. models. The glucofructan at the concentration of 100mg/mL was found to have PBL proliferation-inducing activity in patients with insulin dependent diabetes mellitus, idiopathic nephrotic syndrome and healthy donors of different age. The level of proliferation induced measured by 3H-thymidine incorporation was comparable with that induced with well-known mitogens such as phytohemagglutinin (PHA) and pokeweed mitogen (PWM). The polysaccharide failed to stimulate PBL proliferation in patients with acute and chronic glomerulonephritis and insulin independent diabetes. Nevertheless, the glucofructan seems to be a strong in vitro PBL mitogen, especially in persons with T-cell dependent autoimmune status. The possible mechanisms of the glucofructan mitogenic activity are discussed.
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 11 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:359739 CAPLUS
DOCUMENT NUMBER: 134:339847
TITLE: Food for diabetics
INVENTOR(S): Stahl, Bernd; Kliem, Michael; Farwer, Sandra; Sawatzki, Guenther; Boehm, Guenther

PATENT ASSIGNEE(S): N.V. Nutricia, Neth.
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001033973	A2	20010517	WO 2000-EP11134	20001110
WO 2001033973	A3	20011004		
W: AL, AU, BR, CA, CN, ID, IN, JP, LT, LV, MK, MX, NO, NZ, PL, RO, SG, SI, US, ZA				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
DE 19954233	A1	20010531	DE 1999-19954233	19991111
EP 1229803	A2	20020814	EP 2000-993030	20001110
EP 1229803	B1	20060510		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
AT 325546	T	20060615	AT 2000-993030	20001110
ES 2264946	T3	20070201	ES 2000-993030	20001110

PRIORITY APPLN. INFO.: DE 1999-19954233 A 19991111
WO 2000-EP11134 W 20001110

AB The invention relates to a carbohydrate mixture which is provided with at least one modified carbohydrate made of a carrier and a carbohydrate residue coupled therewith. The carrier is a digestible, glucose-containing carbohydrate in the form of a digestable glucan or a non-digestable storage carbohydrate, skeletal carbohydrate or low-mol.-weight component thereof. The carrier is coupled to a carbohydrate residue. Glucose release from the carbohydrate mixture is thus reduced by at least 10%, detected in an in-vivo digestion system based on pancreatin and compared to a carbohydrate mixture which contains the same amount by weight of non-modified carbohydrates. The postprandial blood glucose concentration increase after eating can be moderated by means of the inventive carbohydrate mixture The glucose can thus be metabolized by diabetics in spite of the existing lack of insulin. The inventive carbohydrate mixture can be used in food for diabetics and in pharmaceuticals.

L20 ANSWER 12 OF 23 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:395442 CAPLUS
TITLE: Prebiotics and probiotics: are they functional foods?
AUTHOR(S): Roberfroid, Marcel B.
CORPORATE SOURCE: Department of Pharmaceutical Sciences, Universite Catholique de Louvain, Brussels, B-1200, Belg.
SOURCE: American Journal of Clinical Nutrition (2000), 71(6, Suppl.), 1682S-1687S
CODEN: AJCNAC; ISSN: 0002-9165
PUBLISHER: American Society for Clinical Nutrition
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A probiotic is a viable microbial dietary supplement that beneficially affects the host through its effects in the intestinal tract. Probiotics are widely used to prepare fermented dairy products such as yogurt or freeze-dried cultures. In the future, they may also be found in fermented vegetables and meats. Several health-related effects associated with the intake of probiotics, including alleviation of lactose intolerance and immune enhancement, have been reported in human studies. Some evidence suggests a role for probiotics in reducing the risk of rotavirus-induced diarrhea and colon cancer. Prebiotics are nondigestible food ingredients that benefit the host by selectively stimulating the growth or activity of one or a limited number of bacteria in the colon. Work with prebiotics has been limited, and only studies involving the inulin-type fructans

have generated sufficient data for thorough evaluation regarding their possible use as functional food ingredients. At present, claims about reduction of disease risk are only tentative and further research is needed. Among the claims are constipation relief, suppression of diarrhea, and reduction of the risks of osteoporosis, atherosclerotic cardiovascular disease associated with dyslipidemia and insulin resistance, obesity, and possibly type 2 diabetes. The combination of probiotics and prebiotics in a synbiotic has not been studied. This combination might improve the survival of the bacteria crossing the upper part of the gastrointestinal tract, thereby enhancing their effects in the large bowel. In addition, their effects might be additive or even synergistic.

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1985:77649 CAPLUS
DOCUMENT NUMBER: 102:77649
TITLE: Effects of fructo-oligosaccharides on blood glucose and serum lipids in diabetic subjects
AUTHOR(S): Yamashita, Kamejiro; Kawai, Koichi; Itakura, Mitsuo
CORPORATE SOURCE: Inst. Clin. Med., Univ. Tsukuba, Sakura, 305, Japan
SOURCE: Nutrition Research (New York, NY, United States) (1984), 4(6), 961-6
CODEN: NTRSDC; ISSN: 0271-5317
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Daily intake of 8.0 g/day of fructo-oligosaccharides for 14 days reduced mean fasting blood glucose levels by 15 mg/dL, mean serum total cholesterol [57-88-5] levels by 19 mg/dL, and low-d. lipoprotein-cholesterol levels by 17 mg/dL in diabetic subjects, whereas the control diabetic subjects who were given 5.0 g/day of sucrose showed no changes. The levels of serum high-d. lipoprotein-cholesterol, triglycerides, or free fatty acids were not affected either by fructo-oligosaccharides or sucrose. These results indicated that the daily intake of fructo-oligosaccharides ameliorates the derangements of carbohydrate and lipid metabolism in diabetic subjects.

L26 ANSWER 11 OF 17 MEDLINE on STN
ACCESSION NUMBER: 2007007665 MEDLINE
DOCUMENT NUMBER: PubMed ID: 17051465
TITLE: Action of (2-->1)Fructo-oligopolysaccharide fraction of Chlorophytum borivilianum against Streptozotocin-Induced oxidative stress.
AUTHOR: Narasimhan Sreevidya; Govindarajan Raghavan; Madhavan Vijayakumar; Thakur M; Dixit V K; Mehrotra Shanta; Madhusudanan K P
CORPORATE SOURCE: Pharmacognosy and Ethnopharmacology Division, National Botanical Research Institute, Lucknow, India.. narasimhansreevidyan@rediffmail.com
SOURCE: Planta medica, (2006 Dec) Vol. 72, No. 15, pp. 1421-4. Electronic Publication: 2006-10-18. Journal code: 0066751. ISSN: 0032-0943.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200703
ENTRY DATE: Entered STN: 5 Jan 2007
Last Updated on STN: 6 Mar 2007
Entered Medline: 5 Mar 2007
AB A fructo-oligosaccharide was isolated from Chlorophytum borivilianum and identified as O-beta-D-fructofuranosyl-(2-->1)-(beta-D-fructofuranosyl) (n)-(2-->1)-alpha-D-glucopyranoside (n = 5 - 30) using high-pressure anion exchange chromatography, MALDI-MS, NMR, GC, HPTLC and chemical analysis. The extract and the fructo-oligosaccharide were found to have significant antidiabetic activity with the blood sugar levels being 118.32 +/- 3.56 and 110.21 +/- 4.22, respectively, as compared to the control value of 231.25 +/- 3.03 along with moderate antioxidant activity in streptozotocin-induced diabetic animals.

L26 ANSWER 12 OF 17 MEDLINE on STN
ACCESSION NUMBER: 2005353350 MEDLINE
DOCUMENT NUMBER: PubMed ID: 16007562

TITLE: An anti-inflammatory and antioxidant nutritional supplement for hypoalbuminemic hemodialysis patients: a pilot/feasibility study.

AUTHOR: Kalantar-Zadeh Kamyar; Braglia Amy; Chow Joanne; Kwon Osun; Kuwae Noriko; Colman Sara; Cockram David B; Kopple Joel D

CORPORATE SOURCE: Division of Nephrology and Hypertension, Los Angeles Biomedical Institute at Harbor-UCLA Medical Center, Torrance, CA 90509-2910, USA.. kamkal@ucla.edu

SOURCE: Journal of renal nutrition : the official journal of the Council on Renal Nutrition of the National Kidney Foundation, (2005 Jul) Vol. 15, No. 3, pp. 318-31. Journal code: 9112938. E-ISSN: 1532-8503.

PUB. COUNTRY: United States

DOCUMENT TYPE: (CONTROLLED CLINICAL TRIAL) Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T) (CLINICAL TRIAL)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200604

ENTRY DATE: Entered STN: 12 Jul 2005
Last Updated on STN: 28 Apr 2006
Entered Medline: 27 Apr 2006

AB BACKGROUND: A low serum albumin concentration < 3.8 g/dL, a marker of malnutrition-inflammation complex syndrome, is observed in approximately half of all maintenance hemodialysis (MHD) patients in the United States and is strongly associated with increased mortality. OBJECTIVES: We hypothesized that a novel oral nutritional intervention with anti-inflammatory and antioxidant properties taken during routine dialysis sessions is well tolerated and corrects hypoalbuminemia in MHD patients. DESIGN: Controlled clinical study. SETTING: An outpatient dialysis facility affiliated with a tertiary care community medical center with six equally distributed hemodialysis shifts and 163 MHD patients. PATIENTS: Among all MHD outpatients of three selected HD shifts (n = 81 patients), 21 subjects had a serum albumin level < 3.8 g/dL. One patient who was hospitalized before the intervention was excluded. The other three dialysis shifts, with 82 MHD outpatients including 20 hypoalbuminemic subjects, were observed as concurrent controls. INTERVENTION: The nutritional intervention included one can of Oxepa and one can of Nepro to be taken together orally during each routine hemodialysis session for 4 weeks. Each can contains 237 mL fluid. Oxepa provides 355 calories and 14.8 g protein per can, includes maltodextrin, medium-chain triglycerides, borage oil, and refined and deodorized fish oil, and is designed for critically ill patients with inflammation and oxidative stress. Each can of Oxepa includes 1,020 mg gamma-linolenic acid, 3,100 mg caprylic acid, 1,080 mg eicosapentaenoic acid, 75 mg taurine, 2,840 IU vitamin A activity, 75 IU vitamin E, and 200 mg vitamin C. Nepro provides 475 calories and 16.7 g protein per can; includes high-oleic safflower oil, corn syrup solids, and fructo-oligosaccharides; and is tailored for the nutritional needs of MHD patients. Oxepa and Nepro also contain L-carnitine, 43 mg and 62 mg, respectively. MAIN OUTCOME MEASURES: Serum albumin pretrial and posttrial. RESULTS: Studied outpatients (12 men and 8 women) were aged 60.4 +/- 13.0 (SD) years. Three patients had started MHD treatment between 1.5 and 3 months before the intervention. Nine patients were diabetic. Preintervention serum albumin, 3.44 +/- 0.34 g/dL (mean +/- SD) increased to 3.68 +/- 0.34 g/dL (P = .001) 4 weeks after the start of the intervention. In 16 patients, serum albumin level increased by 0.2 to 1.3 g/dL, whereas in 4 patients the serum albumin level decreased by 0.2 to 0.6 g/dL. Three patients reported diarrhea, and one diabetic patient had increased serum glucose values. No other side effects were noted. In 20 control outpatients not receiving nutritional intervention, serum albumin did not change from 3.46 +/- 0.20 to 3.47 +/- 10.44 g/dL (P = .47). CONCLUSIONS: In hypoalbuminemic MHD patients, a short-term in-center

nutritional intervention with one can of Nepro and one can of Oxepa during HD is practical, convenient, well-tolerated, and associated with a significant increase in serum albumin level. Well-designed randomized placebo-controlled clinical trials are needed to verify the safety and effectiveness of this nutritional intervention and its impact on clinical outcome in hypoalbuminemic MHD patients.

L26 ANSWER 13 OF 17 MEDLINE on STN
ACCESSION NUMBER: 2000242436 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10841459
TITLE: Fructo-oligosaccharide supplementation: effects on metabolic, endocrine and hematological traits in veal calves.
AUTHOR: Kaufhold J; Hammon H M; Blum J W
CORPORATE SOURCE: Division of Nutritional Pathology, University of Berne, Switzerland.
SOURCE: Journal of veterinary medicine. A, Physiology, pathology, clinical medicine, (2000 Feb) Vol. 47, No. 1, pp. 17-29. Journal code: 100955112. ISSN: 0931-184X.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200005
ENTRY DATE: Entered STN: 25 May 2000
Last Updated on STN: 13 Jun 2000
Entered Medline: 16 May 2000

AB Fructo-oligosaccharides (FOS) are soluble fibres which exert various effects in the gastrointestinal tract, and induce metabolic and endocrine changes. The effects are favourable in diabetes mellitus, and may be favourable in veal calves, which during late periods of fattening often develop hyperglycemia, glucosuria and insulin resistance, especially during high lactose intake. Based on this we have studied metabolic, endocrine and haematological traits in veal calves (Simmental x Red Holstein) fed FOS (10 g/day; group GrF) or no FOS (group GrC). Whole milk and milk replacer in both groups, on a kg body weight basis, were fed in identical amounts. Experiments, lasting for 3 weeks, started when calves were 10 weeks old and weighed 117 kg. During week 3 lactose was supplemented to enhance post-absorptive glucose loads. Feed intakes were similar in both groups, but weight gain tended to be higher in GrF than GrC. The post-prandial increase of glucose concentrations was significantly smaller, of lactate tended to be smaller, and growth hormone peak frequency tended to be lower, whereas maximal insulin concentrations reached post-prandially were significantly higher in GrF than GrC. Eosinophil granulocytes increased during FOS feeding. In conclusion, FOS had basically similar effects on metabolic and endocrine traits in veal calves as in animals and humans with diabetes mellitus, but changes were small, albeit more prominent after lactose loads.

L26 ANSWER 14 OF 17 MEDLINE on STN
ACCESSION NUMBER: 2000212732 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10750694
TITLE: Viscous and nonviscous fibres, nonabsorbable and low glycaemic index carbohydrates, blood lipids and coronary heart disease.
AUTHOR: Jenkins D J; Kendall C W; Axelsen M; Augustin L S; Vuksan V
CORPORATE SOURCE: Clinical Nutrition & Risk Factor Modification Center, St. Michael's Hospital, and Department of Nutritional Sciences, Faculty of Medicine, University of Toronto, Ontario, Canada.. cyril.kendall@utoronto.ca
SOURCE: Current opinion in lipidology, (2000 Feb) Vol. 11, No. 1, pp. 49-56. Ref: 66
Journal code: 9010000. ISSN: 0957-9672.

PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200005
ENTRY DATE: Entered STN: 18 May 2000
Last Updated on STN: 18 May 2000
Entered Medline: 11 May 2000

AB Viscous fibres such as guar, glucomannans, pectins, oat betaglucan and psyllium continue to be seen as hypocholesterolaemic. Nevertheless, in large cohort studies, ironically it is the insoluble cereal fibre that has been demonstrated to relate negatively to cardiovascular disease and diabetes, despite an absence of effect on fasting lipids or postprandial glycaemia. In general, resistant or nonabsorbable starch is lipid neutral, whereas some nonabsorbable sugars or oligosaccharides may raise serum cholesterol, possibly through providing more acetate after colonic fermentation by colonic microflora. On the other hand, fructo-oligosaccharides appear to reduce serum triglycerides for reasons that are not entirely clear. Of possibly greater recent interest have been the carbohydrates that are not so much resistant to absorption, but rather are slowly absorbed. They possess some of the features of dietary fibre in providing a substrate for colonic bacterial fermentation. In the small intestine, however, they form lente or sustained release carbohydrate. In the form of low glycaemic index foods, lente carbohydrate consumption has been shown to relate to improved blood lipid profiles in hyperlipidaemic individuals and improved glycaemic control in diabetes. In larger cohort studies, low glycaemic index foods or low glycaemic load diets have been associated with higher HDL-cholesterol levels and reduced incidence of diabetes and cardiovascular disease.

L26 ANSWER 15 OF 17 MEDLINE on STN
ACCESSION NUMBER: 1999123359 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9924284
TITLE: Prebiotics and synbiotics: concepts and nutritional properties.
AUTHOR: Roberfroid M B
CORPORATE SOURCE: Universite Catholique de Louvain, Department of Pharmaceutical Sciences, Brussels, Belgium.
SOURCE: The British journal of nutrition, (1998 Oct) Vol. 80, No. 4, pp. S197-202. Ref: 38
Journal code: 0372547. ISSN: 0007-1145.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199902
ENTRY DATE: Entered STN: 16 Feb 1999
Last Updated on STN: 16 Feb 1999
Entered Medline: 4 Feb 1999

AB The main role of diet is to provide enough nutrients to meet the requirements of a balanced diet, while giving the consumer a feeling of satisfaction and well-being. The most recent knowledge in bioscience supports the hypothesis that diet also controls and modulates various functions in the body, and, in doing so, contributes to the state of good health necessary to reduce the risk of some diseases. It is such an hypothesis which is at the origin both of the concept of 'functional food' and the development of a new scientific discipline of 'functional food science'. In the context of this paper the potential 'functional foods' to be discussed are the prebiotics and the synbiotics. The prebiotics developed so far are the non-digestible oligosaccharides and especially the non-digestible fructans among which chicory fructans play a major

role. The chicory fructans are beta (2-1) fructo-oligosaccharides classified as natural food ingredients. They positively affect various physiological functions in such a way that they are already or may, in the future, be classified as functional food ingredients for which claims of functional effects or of disease risk reduction might become authorized. They are classified as prebiotic and have been shown to induce an increase in the number of bifidobacteria in human faecal flora. As part of a synbiotic-type product, they are already bifidogenic at a dose of 2.75 g/d and the effect lasts for at least 7 weeks. The other potential functional effects are on the bioavailability of minerals, but also, and more systemically, on the metabolism of lipids. Potential health benefits may concern reduction of the risk of intestinal infectious diseases, cardiovascular disease, non-insulin-dependent diabetes, obesity, osteoporosis and cancer. However, except for the prebiotic effect, and tentatively the improvement of calcium bioavailability, the evidence to support such effects is still missing in humans though hypotheses already exist to justify nutrition studies.

L26 ANSWER 16 OF 17 MEDLINE on STN
ACCESSION NUMBER: 1998027978 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9361885
TITLE: Influence of a blend of fructo-oligosaccharides and sugar beet fiber on nutrient digestibility and plasma metabolite concentrations in healthy beagles.
AUTHOR: Diez M; Hornick J L; Baldwin P; Istasse L
CORPORATE SOURCE: Faculty of Veterinary Medicine, University of Liege, Belgium.
SOURCE: American journal of veterinary research, (1997 Nov) Vol. 58, No. 11, pp. 1238-42.
Journal code: 0375011. ISSN: 0002-9645.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199801
ENTRY DATE: Entered STN: 6 Feb 1998
Last Updated on STN: 6 Feb 1998
Entered Medline: 27 Jan 1998

AB OBJECTIVE: To evaluate effects of a blend of fructo-oligosaccharides and sugar beet fiber (4:1) at 3 incorporation rates on nutrient digestibility and plasma glucose, insulin, alpha-aminonitrogen, urea, cholesterol, and triglycerides concentrations measured weekly in nonfed dogs and during a 360-minute period after a meal. ANIMALS: 8 castrated 1- to 1.4-year-old young adult male Beagles weighing 10.0 to 13.5 kg. PROCEDURE: Diets containing 2 incorporation rates of a blend of fructo-oligosaccharides and sugar beet fiber (5 and 10% on a dry matter basis [diets B and C, respectively]) were compared with a control diet without additional fiber (diet A). The 3 diets were evaluated for ability to modify digestibility of dry and organic matter, protein, fat, and ash and for effects on plasma glucose, insulin, alpha-aminonitrogen, urea, cholesterol, and triglycerides concentrations. Each diet was fed for 6 weeks; plasma samples were collected weekly before feeding and after feeding on the last day of the period. During 1 week at the end of the 6-week period, dogs were kept in metabolic cages. Each period of the block was followed by a 4-week washout period. RESULTS: Incorporating the blend of fructo-oligosaccharides and sugar beet fiber in the diet was associated with greater passage of wet feces (diets B and C) and lower protein digestibility (diet C). Postprandial glucose (diet C), urea (diets B and C) and triglyceride (diets B and C) concentrations were significantly ($P < 0.01$) decreased. Weekly preprandial measurements were characterized by decreased urea (diets B and C), cholesterol (diet C), and triglycerides (diets B and C) concentrations ($P < 0.001$). CONCLUSION: Chronic consumption of fermentable fiber is associated with mildly decreased

protein digestibility and with metabolic effects in nonfed or fed dogs. CLINICAL RELEVANCE: A blend of fructo-oligosaccharides and sugar beet fiber should be tested as a dietary aid for treatment of chronic diseases, such as diabetes mellitus or hyperlipidemia, in dogs.

L26 ANSWER 17 OF 17 MEDLINE on STN
ACCESSION NUMBER: 94160936 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8116563
TITLE: Undigestible sugars in food products.
AUTHOR: Bornet F R
CORPORATE SOURCE: Nutrition and Health Service, Eridania Beghin-Say, Paris, France.
SOURCE: The American journal of clinical nutrition, (1994 Mar) Vol. 59, No. 3 Suppl, pp. 763S-769S. Ref: 46
Journal code: 0376027. ISSN: 0002-9165.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199403
ENTRY DATE: Entered STN: 6 Apr 1994
Last Updated on STN: 6 Apr 1994
Entered Medline: 30 Mar 1994

AB In the field of sucrose replacement, low-energy bulk ingredients must be used to lower the energy density of food. Ideally, low-energy bulk ingredients as a substitute for sucrose should have significantly less energy, possess physical and chemical properties that precisely match those of sucrose in all food applications, provide secondary health benefits (such as being noncariogenic, being useful for diabetics , and having fiber-like effects), confer no negative side effects, and be completely safe at any amount of consumption. The food industry has developed a range of low-energy bulk ingredients. Most of these are legally permitted in food applications and are undigestible sugars (eg, polyols and fructo-oligosaccharides). Their main nutritional properties (energy value, digestive tolerance, and cariogenicity) are related to their fate in the digestive tract, especially their capacity to be used and fermented by bacteria.

L8 ANSWER 52 OF 62 MEDLINE on STN
ACCESSION NUMBER: 2004324872 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15225596
TITLE: Antigenotoxicity of probiotics and prebiotics on faecal water-induced DNA damage in human colon adenocarcinoma cells.
AUTHOR: Burns Anthony J; Rowland Ian R
CORPORATE SOURCE: Northern Ireland Centre for Food and Health, School of Biomedical Sciences, University of Ulster, Coleraine BT52 1SA, UK.
SOURCE: Mutation research, (2004 Jul 13) Vol. 551, No. 1-2, pp. 233-43.
Journal code: 0400763. ISSN: 0027-5107.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200408
ENTRY DATE: Entered STN: 1 Jul 2004
Last Updated on STN: 13 Aug 2004
Entered Medline: 12 Aug 2004

AB Six strains of lactic acid producing bacteria (LAB) were incubated (1 x 10(8)cfu/ml) with genotoxic faecal water from a human subject. HT29 human adenocarcinoma cells were then challenged with the resultant samples and DNA damage measured using the single cell gel electrophoresis (comet) assay. The LAB strains investigated were Bifidobacterium sp. 420, Bifidobacterium Bb12, Lactobacillus plantarum, Streptococcus thermophilus, Lactobacillus bulgaricus and Enterococcus faecium. DNA damage was significantly decreased by all bacteria used with the exception of Strep. thermophilus. Bif. Bb12 and Lact. plantarum showed the greatest protective effect against DNA damage. Incubation of faecal water with different concentrations of Bif. Bb12 and Lact. plantarum revealed that the decrease in genotoxicity was related to cell density. Non-viable (heat treated) probiotic cells had no effect on faecal water genotoxicity. In a second study, HT29 cells were cultured in the presence of supernatants of incubations of probiotics with various carbohydrates including known prebiotics; the HT29 cells were then exposed to faecal water. Overall, incubations involving Lact. plantarum with the fructooligosaccharide (FOS)-based prebiotics Inulin, Raftiline, Raftilose and Actilight were the most effective in increasing the cellular resistance to faecal water genotoxicity, whereas fermentations with Elixor (a galactooligosaccharide) and Fibersol (a maltodextrin) were less effective. Substantial reductions in faecal water-induced DNA damage were also seen with supernatants from incubation of prebiotics with Bif. Bb12. The supernatant of fermentations involving Ent. faecium and Bif. sp. 420 generally had less potent effects on genotoxicity although some reductions with Raftiline and Elixor fermentations were apparent.

L8 ANSWER 53 OF 62 MEDLINE on STN
ACCESSION NUMBER: 2004203310 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15099408
TITLE: Enteral feeding: the effect on faecal output, the faecal microflora and SCFA concentrations.
AUTHOR: Whelan Kevin; Judd Patricia A; Preedy Victor R; Taylor Moira A
CORPORATE SOURCE: Department of Nutrition and Dietetics, King's College London, London SE1 9NN, UK.. kevin.whelan@kcl.ac.uk
SOURCE: The Proceedings of the Nutrition Society, (2004 Feb) Vol. 63, No. 1, pp. 105-13. Ref: 73
Journal code: 7505881. ISSN: 0029-6651.
PUB. COUNTRY: England: United Kingdom

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200407
ENTRY DATE: Entered STN: 22 Apr 2004
Last Updated on STN: 16 Jul 2004
Entered Medline: 15 Jul 2004

AB Enteral tube feeding is common in both the hospital and community environment; however, patients can suffer alterations in faecal output that can have serious clinical sequelae. Problems associated with accurate characterisation of faecal output and definition of diarrhoea impede the comparison of research studies and prevent standardised assessment of therapeutic interventions in clinical practice. The colonic microflora may protect the patient against diarrhoea by preventing enteropathogenic infection and by producing SCFA that stimulate colonic water absorption. However, studies in healthy volunteers suggest that the composition of the enteral formula may have a negative impact on the microflora and SCFA concentrations. The addition of fructo-oligosaccharides to the enteral formula may partially prevent negative alterations to the microflora, although conclusive data from studies in patients are not yet available. Modification of the microflora with probiotics and prebiotics may hold potential in prophylaxis against diarrhoea during enteral tube feeding.

L8 ANSWER 54 OF 62 MEDLINE on STN
ACCESSION NUMBER: 2004125407 MEDLINE
DOCUMENT NUMBER: PubMed ID: 15016747
TITLE: Dietary fructo-oligosaccharides and inulin decrease resistance of rats to salmonella: protective role of calcium.
AUTHOR: Ten Bruggencate S J M; Bovee-Oudenhoven I M J; Lettink-Wissink M L G; Katan M B; Van Der Meer R
CORPORATE SOURCE: Nutrition and Health Program, Wageningen Centre for Food Sciences/NIZO Food Research, Ede, The Netherlands.
SOURCE: Gut, (2004 Apr) Vol. 53, No. 4, pp. 530-5.
Journal code: 2985108R. ISSN: 0017-5749.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 200404
ENTRY DATE: Entered STN: 13 Mar 2004
Last Updated on STN: 24 Apr 2004
Entered Medline: 23 Apr 2004

AB BACKGROUND: We have shown recently that rapid fermentable fructo-oligosaccharides (FOS) decreased resistance of rats towards salmonella. It is not known whether inulin (which is fermented more gradually) has similar effects or whether buffering nutrients can counteract the adverse effects of rapid fermentation. AIMS: To compare the effects of dietary inulin and FOS on resistance of rats to Salmonella enterica serovar Enteritidis and to determine whether calcium phosphate counteracts the effects of fermentation. METHODS: Male Wistar rats (n = 8 per group) were fed a human "Western style diet". Diets with 60 g/kg cellulose (control), FOS, or inulin had either a low (30 mmol/kg) or high (100 mmol/kg) calcium concentration. After an adaptation period of two weeks, animals were orally infected with 2 x 10(9) colony forming units of Salmonella enterica serovar Enteritidis. Colonisation of salmonella was determined by quantification of salmonella in caecal contents. Translocation of salmonella was quantified by analysis of urinary nitric oxide metabolites in time. RESULTS: Inulin and FOS decreased intestinal pH and increased faecal lactobacilli and enterobacteria. Moreover, both prebiotics increased the cytotoxicity of faecal water

and faecal mucin excretion. Both prebiotics increased colonisation of salmonella in caecal contents and enhanced translocation of salmonella. Dietary calcium phosphate counteracted most of the adverse effects of inulin and FOS. CONCLUSIONS: Both inulin and FOS impair resistance to intestinal infections in rats. This impairment is partially prevented by dietary calcium phosphate. The results of the present study await verification in other controlled animal and human studies.

L8 ANSWER 55 OF 62 MEDLINE on STN
ACCESSION NUMBER: 2003344450 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12876540
TITLE: [Diarrhea during enteral feeding]. Diarrhee en nutrition enterale.
AUTHOR: Schneider Stephane M; Hebuterne Xavier
CORPORATE SOURCE: Federation d'hepato-gastroenterologie et de nutrition clinique, Hopital de l'Archet, Nice (06).. stephane.schneider@unice.fr
SOURCE: Presse medicale (Paris, France : 1983), (2003 Jun 7) Vol. 32, No. 20, pp. 935-41. Ref: 62
Journal code: 8302490. ISSN: 0755-4982.
PUB. COUNTRY: France
DOCUMENT TYPE: (ENGLISH ABSTRACT)
Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: French
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200308
ENTRY DATE: Entered STN: 24 Jul 2003
Last Updated on STN: 21 Aug 2003
Entered Medline: 20 Aug 2003

AB PREVALENCE: Diarrhea occurs in 2 to 70% of tube-fed patients, depending on their disease (with an increased risk in critically ill patients) and on the definition of diarrhea used. CONSEQUENCES: Diarrhea increases morbidity, particularly since the nutritional goals are harder to reach. CAUSES: Relevant causes today are related to the nutrition (irregular and too high output, jejunal site, low sodium and fiber contents), to the patient (malnutrition, stress, underlying diseases), and predominantly to concomitant treatments (antibiotics, with an increased risk of Clostridium difficile infection, laxative-containing drugs). TREATMENT: Treatment of the cause is only valid when it has been identified. Symptomatic treatment principally combines compensation for water and electrolyte loss and drugs that slow down the transit. Prevention associates the regulation of the administration rate and the fight against Clostridium difficile. Restoration of the colonic microflora appears the key to success and some prebiotics and probiotics have demonstrated preventive effects. Further research in this direction is warranted.

L8 ANSWER 56 OF 62 MEDLINE on STN
ACCESSION NUMBER: 2003311792 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12840199
TITLE: Dietary fructo-oligosaccharides dose-dependently increase translocation of salmonella in rats.
AUTHOR: Ten Bruggencate Sandra J M; Bovee-Oudenhoven Ingeborg M J; Lettink-Wissink Mischa L G; Van der Meer Roelof
CORPORATE SOURCE: Nutrition and Health Program, Wageningen Center for Food Sciences/NIZO Food Research, Ede, The Netherlands.
SOURCE: The Journal of nutrition, (2003 Jul) Vol. 133, No. 7, pp. 2313-8.
Journal code: 0404243. ISSN: 0022-3166.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals

ENTRY MONTH: 200308
ENTRY DATE: Entered STN: 4 Jul 2003
Last Updated on STN: 26 Aug 2003
Entered Medline: 25 Aug 2003

AB Prebiotics, such as fructo-oligosaccharides (FOS), stimulate the protective gut microflora, resulting in an increased production of organic acids. This may result in increased luminal killing of acid-sensitive pathogens. However, host defense against invasive pathogens, like salmonella, also depends on the barrier function of the intestinal mucosa. Rapid fermentation of prebiotics leading to high concentrations of organic acids may impair the barrier function. Therefore, we determined the dose-dependent effect of dietary FOS on the resistance of rats to Salmonella enteritidis. Male Wistar rats were fed restricted quantities of a "humanized" purified diet supplemented with 0, 3 or 6 g/100 g of FOS (n = 7 in the 6% FOS group and n = 8 in the other diet groups). After an adaptation period of 2 wk, rats were orally infected with 1.7 x 10(10) colony-forming units of S. enteritidis. Supplement-induced changes in the intestinal microflora and fecal cation excretion were determined before and after infection. Cytotoxicity of fecal water was determined with an in vitro bioassay, and fecal mucins were quantified fluorimetrically. Colonization of S. enteritidis was determined by quantification of salmonella in cecal contents and mucosa. Translocation of S. enteritidis was quantified by analysis of urinary nitric oxide metabolites in time. Before infection, FOS decreased cecal and fecal pH, increased fecal lactic acid concentration and increased bifidobacteria and enterobacteria. FOS also increased cytotoxicity of fecal water and fecal mucin excretion, indicating mucosal irritation. Remarkably, FOS dose-dependently increased salmonella numbers in cecal contents and mucosa and caused a major increase in infection-induced diarrhea. In addition, FOS enhanced translocation of salmonella. Thus, in contrast to most expectations, FOS dose-dependently impairs the resistance to salmonella infection in rats. These results await verification by other controlled animal and human studies.

L8 ANSWER 57 OF 62 MEDLINE on STN
ACCESSION NUMBER: 2003060633 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12570821
TITLE: Modification of intestinal flora in the treatment of inflammatory bowel disease.
AUTHOR: Kanauchi Osamu; Mitsuyama Keiichi; Araki Yoshio; Andoh Akira
CORPORATE SOURCE: Nutrient Food & Feed Division, Kirin Brewery Co Ltd, 10-1-2 Shinkawa Chuo-ku, Tokyo, 104-8288, Japan.. kanauchio@kirin.co.jp
SOURCE: Current pharmaceutical design, (2003) Vol. 9, No. 4, pp. 333-46. Ref: 92
Journal code: 9602487. ISSN: 1381-6128.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200305
ENTRY DATE: Entered STN: 7 Feb 2003
Last Updated on STN: 21 May 2003
Entered Medline: 20 May 2003

AB Because the intestinal microflora play an important role in the development of inflammatory bowel disease (IBD), there is currently some interest in the manipulation of the composition of the microflora towards a potentially more remedial community. This review summarizes the clinical and experimental efficacy of the manipulation of microflora by the use of prebiotics, probiotics, synbiotics, and antibiotics in IBD. Prebiotics, defined as nondigestible food ingredients

that beneficially affect the host by selectively stimulating the growth or activity of one or a limited number of bacterial species already resident in the colon, can modulate the colonic microbiota by increasing the number of specific bacteria and thus changing the composition of the microbiota. Prebiotics for IBD include lactosucrose, oligofructose, inulin, bran, psyllium, and germinated barley foodstuff (GBF). GBF, which mainly consists of dietary fiber and glutamine-rich protein, is a prebiotic foodstuff for ulcerative colitis. GBF has shown to be converted into a preferential nutrient for colonocytes through Eubacterium and Bifidobacterium and also inactivate nuclear factor kappa B (NFkB). Moreover, it exhibits a potent water-holding capacity and bile-acid binding capacity. Probiotics, which are microbial food supplements that beneficially affect the host by improving the intestinal microbial balance, have been used to change the composition of colonic microbiota. The approaches for IBD include VSL#3, Nissle1917, Clostridium butyricum and Bifidobacterium-fermented milk. Use of Lactococci secreting IL-10 provides excellent results. The combination of prebiotics and probiotics in a synbiotic has not been studied in IBD but is promising. The use of antibiotics continues to be of interest. Although these strategies hold great promise and appear to be useful in some settings, more clinical study is needed to firmly establish the relevance of these therapies.

L8 ANSWER 58 OF 62 MEDLINE on STN
ACCESSION NUMBER: 2002733237 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12495463
TITLE: Scientific basis of biomarkers and benefits of functional foods for reduction of disease risk: cancer.
AUTHOR: Rafter Joseph J
CORPORATE SOURCE: Department of Medical Nutrition, Karolinska Institutet, NOVUM, S-141 86 Huddinge, Sweden..
joseph.rafter@mednut.ki.se
SOURCE: The British journal of nutrition, (2002 Nov) Vol. 88 Suppl 2, pp. S219-24. Ref: 40
Journal code: 0372547. ISSN: 0007-1145.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200301
ENTRY DATE: Entered STN: 27 Dec 2002
Last Updated on STN: 10 Jan 2003
Entered Medline: 9 Jan 2003

AB One of the most promising areas for the development of functional foods lies in modification of the activity of the gastrointestinal tract by use of probiotics, prebiotics and synbiotics. While a myriad of healthful effects have been attributed to the probiotic lactic acid bacteria, perhaps the most controversial remains that of anticancer activity. However, it must be emphasised that, to date, there is no direct experimental evidence for cancer suppression in man as a result of consumption of lactic cultures in fermented or unfermented dairy products, although there is a wealth of indirect evidence, based largely on laboratory studies. Presently, there are a large number of biomarkers available for assessing colon cancer risk in dietary intervention studies, which are validated to varying degrees. These include colonic mucosal markers, faecal water markers and immunological markers. Overwhelming evidence from epidemiological, in vivo, in vitro and clinical trial data indicates that a plant-based diet can reduce the risk of chronic disease, particularly cancer. It is now clear that there are components in a plant-based diet other than traditional nutrients that can reduce cancer risk. More than a dozen classes of these biologically active plant chemicals, now known as 'phytochemicals', have been identified. Although the vast number of naturally occurring

health-enhancing substances appear to be of plant origin, there are a number of physiologically active components in animal products (such as the probiotics referred to above) that deserve attention for their potential role in cancer prevention.

L8 ANSWER 59 OF 62 MEDLINE on STN
ACCESSION NUMBER: 2002625113 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12382693
TITLE: Application of cereals and cereal components in functional foods: a review.
AUTHOR: Charalampopoulos D; Wang R; Pandiella S S; Webb C
CORPORATE SOURCE: Department of Chemical Engineering, Satake Centre for Grain Process Engineering, UMIST Manchester, UK.
SOURCE: International journal of food microbiology, (2002 Nov 15) Vol. 79, No. 1-2, pp. 131-41. Ref: 87
Journal code: 8412849. ISSN: 0168-1605.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200301
ENTRY DATE: Entered STN: 18 Oct 2002
Last Updated on STN: 8 Jan 2003
Entered Medline: 7 Jan 2003

AB The food industry is directing new product development towards the area of functional foods and functional food ingredients due to consumers' demand for healthier foods. In this respect, probiotic dairy foods containing human-derived Lactobacillus and Bifidobacterium species and prebiotic food formulations containing ingredients that cannot be digested by the human host in the upper gastrointestinal tract and can selectively stimulate the growth of one or a limited number of colonic bacteria have been recently introduced into the market. The aim of these products is to affect beneficially the gut microbial composition and activities. Cereals offer another alternative for the production of functional foods. The multiple beneficial effects of cereals can be exploited in different ways leading to the design of novel cereal foods or cereal ingredients that can target specific populations. Cereals can be used as fermentable substrates for the growth of probiotic microorganisms. The main parameters that have to be considered are the composition and processing of the cereal grains, the substrate formulation, the growth capability and productivity of the starter culture, the stability of the probiotic strain during storage, the organoleptic properties and the nutritional value of the final product. Additionally, cereals can be used as sources of nondigestible carbohydrates that besides promoting several beneficial physiological effects can also selectively stimulate the growth of lactobacilli and bifidobacteria present in the colon and act as prebiotics.
Cereals contain water-soluble fibre, such as beta-glucan and arabinoxylan, oilgosaccharides, such as galacto- and fructo-oligosaccharides and resistant starch, which have been suggested to fulfil the prebiotic concept. Separation of specific fractions of fibre from different cereal varieties or cereal by-products, according to the knowledge of fibre distribution in cereal grains, could be achieved through processing technologies, such as milling, sieving, and debranning or pearling. Finally, cereal constituents, such as starch, can be used as encapsulation materials for probiotics in order to improve their stability during storage and enhance their viability during their passage through the adverse conditions of the gastrointestinal tract. It could be concluded that functional foods based on cereals is a challenging perspective, however, the development of new technologies of cereal processing that enhance their health potential and the acceptability of the food product are of primary importance.

L8 ANSWER 60 OF 62 MEDLINE on STN

ACCESSION NUMBER: 2002292858 MEDLINE
DOCUMENT NUMBER: PubMed ID: 11984152
TITLE: Predominance of caecal injury in a new dextran sulphate sodium treatment in rats: histopathological and fermentative characteristics.
AUTHOR: Moreau Noelle M; Toquet Claire S; Laboisse Christian L; Nguyen Patrick G; Siliart Brigitte S; Champ Martine M J; Dumon Henri J; Martin Lucile J
CORPORATE SOURCE: Unite de Nutrition et d'Endocrinologie, Ecole Nationale Veterinaire, Nantes, France.
SOURCE: European journal of gastroenterology & hepatology, (2002 May) Vol. 14, No. 5, pp. 535-42.
Journal code: 9000874. ISSN: 0954-691X.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200207
ENTRY DATE: Entered STN: 30 May 2002
Last Updated on STN: 9 Jul 2002
Entered Medline: 8 Jul 2002

AB OBJECTIVES : Cyclic administrations of dextran sulphate sodium (DSS) alternating with distilled water usually induce chronic colitis after a few weeks. In order to obtain stable chronic colitis (without recovery or relapse) in a few days, a new continuous DSS treatment was tested and characterized. Short-chain fatty acids (SCFAs), which remain poorly documented in experimental colitis, were also investigated. METHODS : Thirty-six Sprague-Dawley rats were treated with 5% DSS for 7 days (DI) followed by 3% DSS for 7 days (DM) or 14 days (DF). Control rats received only water. Inflammatory injuries in the caecum and the colon were assessed by macroscopic (colon length, caecum weight, damages score) and histological parameters. SCFAs (acetate, propionate, butyrate) were quantified individually in caecal, proximal and distal contents. RESULTS : Macroscopic and histological observations revealed that this continuous DSS treatment induced acute inflammation (DI) followed rapidly by chronic active colitis. The latter was uncommonly predominant in the caecum and the distal colon, and was also associated with some fermentative disturbances. Caecal SCFA concentrations decreased with DSS at DI and DM. The molar ratio of caecal butyrate increased with DSS. Acetate decreased in the colon while propionate increased. CONCLUSION : This new DSS treatment is able to induce in a few days stable chronic inflammation with caecal and distal predominant injuries, and mild fermentative caeco-colonic alterations. This model could contribute to the study of potential anti-inflammatory effects of prebiotics.

L8 ANSWER 61 OF 62 MEDLINE on STN
ACCESSION NUMBER: 2000142846 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10680653
TITLE: Assessment of various treatments to reduce carriage of Salmonella in swine.
AUTHOR: Letellier A; Messier S; Lessard L; Quessy S
CORPORATE SOURCE: Faculte de Medecine Veterinaire, Universite de Montreal, Quebec, Canada.
SOURCE: Canadian journal of veterinary research = Revue canadienne de recherche veterinaire, (2000 Jan) Vol. 64, No. 1, pp. 27-31.
Journal code: 8607793. ISSN: 0830-9000.
PUB. COUNTRY: Canada
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200003
ENTRY DATE: Entered STN: 20 Mar 2000

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Entered Medline: 9 Mar 2000

AB In this study, different strategies to reduce carriage of Salmonella spp. in pigs were evaluated. Probiotics, prebiotics, vaccination, and acidification of drinking water were assessed as means of reducing Salmonella. Acidification of water, use of egg yolk-specific immunoglobulins, and vaccination with an endotoxin vaccine did not reduce Salmonella excretion in experimentally infected pigs. A reduction of Salmonella in the colonization of mesenteric lymph nodes was observed with the use of bambermycins and a live attenuated vaccine. A reduction in the shedding of S. Typhimurium was also observed after supplementation with fructooligosaccharides in drinking water. The use of probiotics and prebiotics appeared to change the pig fecal bacterial flora as indicated by Gram staining of smears from rectal swabs.

L8 ANSWER 62 OF 62 MEDLINE on STN
ACCESSION NUMBER: 96270261 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8662138
TITLE: Nutritional support to prevent and treat multiple organ failure.
AUTHOR: Bengmark S; Gianotti L
CORPORATE SOURCE: Ideon Research Center, University of Lund, Suite A 230, Beta House, S-22370 Lund, Sweden.
SOURCE: World journal of surgery, (1996 May) Vol. 20, No. 4, pp. 474-81. Ref: 90
Journal code: 7704052. ISSN: 0364-2313.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199608
ENTRY DATE: Entered STN: 19 Aug 1996
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Entered Medline: 5 Aug 1996

AB Enteral nutrition (EN) has several advantages over parenteral nutrition (PN) for postoperative/posttrauma patients. Modern technologies for tube-feeding have made early EN possible. Jejunal tube-feeding has advantages over gastric tube-feeding: faster metabolic recovery, less vomiting, and less risk of regurgitation and aspiration. Immediate or early EN stimulates the splanchnic and hepatic circulations, improves mucosal blood flow, prevents intramucosal acidosis and permeability disturbances, and eliminates the need for stress ulcer prophylaxis. Saliva containing important antimicrobial substances and gastric acidity are important in sepsis prevention. Chewing, saliva, and gastric acidity support gastric nitric oxide (NO) release, important for mucosal blood flow, gastrointestinal (GI) motility, mucus formation, and bacteriostasis. An oral supply of NO-donating substances and chewing of nitrate-rich food, such as lettuce or spinach, can be useful. Oral and mucosa-protective lipids are recommended. H2 blockers and saliva-inhibiting drugs are avoided. Immediate EN should be given, starting with 25 ml/hr and increasing to 100 ml/hr over 24 to 48 hours. For the immunocompromised patient special attention should be given to the purity of water . Bottled water can contain bacteria such as Pseudomonas. Food antioxidants such as glutathione, vitamin E, and beta-carotenes are important. Ingredients for the colonic mucosa are important. Approximately 10% of caloric need is satisfied by so-called colonic food (prebiotics), fermented at the level of the colonic mucosa to produce colonic mucosa nutrients and to prevent gut origin sepsis. More than 10 g of fiber per day is recommended. The fermenting flora (probiotic flora) is deranged owing to disease or antibiotic treatment, and resupply of flora is important. A new concept of ecoimmune nutrition

is presented for enteral supply of mucosa-reconditioning ingredients: new surfactants, pseudomucus, fiber, amino acids such as arginine, and mucosa-adhering Lactobacillus plantarum 299.